This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Industrial permit. The discharge results from the operation of an Agricultural Products Plant. This permit action consists of updating the proposed effluent limits to reflect the current Virginia WQS (effective January 6, 2011) and updating permit language as appropriate. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260-00 et seq.

1.	Facility Name and Mailing Address:	Crop Production Services, Inc. PO Box 22 Loveland, CO 80538	SIC Code :	2875 and 5191
	Facility Location:	2453 Birchwood Creek Rd King George, VA 22485	County:	King George
	Facility Contact Name:	Marvin Martz	Telephone Number:	(970)685-3300
	Facility E-mail Address:	marvin.martz@cpsagu.com		
2.	Permit No.:	VA0088374	Expiration Date of previous permit:	June 24, 2013
	Other VPDES Permits associated with this facility:		None	
	Other Permits associated with this facility:		None	
	E2/E3/E4 Status:	Not Applicable (NA)		
3.	Owner Name:	Crop Production Services, Inc.		
	Owner Contact/Title:	Nancy Vincek, Manager, Operations Compliance	Telephone Number:	(252)977-0308
	Owner E-mail Address:	nancy.vincek@cpsagu.com		
4.	Application Complete Date:	February 25, 2013		
	Permit Drafted By:	Alison Thompson	Date Drafted:	March 25, 2013
	Draft Permit Reviewed By:	Joan Crowther	Date Reviewed:	April 4, 2013
	WPM Review By:	Bryant Thomas	Date Reviewed:	April 16, 2013
	Public Comment Period :	Start Date: May 15, 2013	End Date:	June 14, 2013

5. Receiving Waters Information: See Attachment 1 for the Flow Frequency Determination

Outfall 002:			
Receiving Stream Name :	Birchwood Run, UT	Stream Code:	3-XEG
Drainage Area at Outfall:	<0.01 sq.mi.	River Mile:	000.22
Outfall 003:			
Receiving Stream Name :	Birchwood Run, UT	Stream Code:	3-XEG
Drainage Area at Outfall:	<0.01 sq.mi.	River Mile:	000.28
Outfall 004:			
Receiving Stream Name :	Birchwood Run, UT	Stream Code:	3-XIC
Drainage Area at Outfall:	<0.01 sq.mi.	River Mile:	000.32

Information Applicable to All Outfalls:

Stream Basin:	Rappahannock River	Subbasin:	None
Section:	4	Stream Class:	III
Special Standards:	None	Waterbody ID:	VAN-E21R
7Q10 Low Flow:	0 MGD	7Q10 High Flow:	0 MGD
1Q10 Low Flow:	0 MGD	1Q10 High Flow:	0 MGD
30Q10 Low Flow:	0 MGD	30Q10 High Flow:	0 MGD
Harmonic Mean Flow:	0 MGD	30Q5 Flow:	0 MGD

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

- ✓ State Water Control Law
- ✓ Clean Water Act
- ✓ VPDES Permit Regulation
- ✓ EPA NPDES Regulation
- ✓ EPA Guidelines
- ✓ Water Quality Standards
- ___ Other

7. Licensed Operator Requirements: NA

8. Reliability Class: NA

9. Permit Characterization:

✓ Private	✓ Effluent Limited	___ Possible Interstate Effect
___ Federal	✓ Water Quality Limited	___ Compliance Schedule Required
___ State	___ Whole Effluent Toxicity Program Required	___ Interim Limits in Permit
___ WTP	___ Pretreatment Program Required	___ Interim Limits in Other Document
✓ TMDL	___ e-DMR Participant	

10. Wastewater Sources and Treatment Description:

This facility's activities include the storage, blending, and bulk retail sales of agricultural products such as fertilizers, herbicides, and seeds. Storage tanks have secondary containment via concrete structures. The facility also stores and sells prepackaged pesticides. Other activities on the site include a maintenance shop, truck scales, and groundwater remediation units. There are no process wastewaters discharged from this site. The only discharge from this facility is from stormwater that is associated with the industrial activity on the site. See Attachment 2 for the NPDES Permit Rating Worksheet.

During the 2008 reissuance, the permitted outfalls were updated, since DEQ staff learned that property boundaries, elevations, and drainage patterns had changed. Outfalls 001 and 101 were no longer part of the property and two additional outfalls that were not identified in the previous permit cycle were noted. Based on the information provided, additional outfalls were added. Outfall 002 was designated at the property boundary in proximity to the former outfall 101, to drain the southeastern side of the property which contains runoff from the office area, potash building, a portion of the railroad spur and a grassy area. Outfall 003 which includes the stormwater pond was added and is located west of Outfall 002, and Outfall 004 was added and is located on the Northeast corner of the property. The outfall locations are noted in the facility site map found in Attachment 3.

Groundwater Remediation:

Crop Production Services has had, since 1998, a Corrective Action Plan (CAP) and Groundwater Monitoring Plan for groundwater remediation. The CAP details the capture and reuse of shallow groundwater contaminated by nitrates from recovery well MW-26 and the West Pit Recovery Drain. The groundwater monitoring plan includes semiannual nitrate and pH testing of the following groundwater monitoring wells: MW-3, MW-5R, MW-6R, MW-9, MW-12, MW-19R, MW-20R, MW-23, MW-24, MW-25, MW-27, and MW-28. The well locations are noted on the site map included in Attachment 3.

In addition to the stormwater outfalls being affected by the property boundary change from the sale of parts of the property, facility staff noted that the property boundary changes also affect the location of some of the monitoring wells. The Groundwater Monitoring Plan (GWMP) has been updated accordingly. The GWMP has also been updated as the groundwater data is analyzed and trends are noted with the plume. Please see Fact Sheet Section 21.i for further discussion on the GWMP.

Analysis of the groundwater monitoring well data is assessed annually and reported to DEQ. Past reviews of the annual assessment report by the DEQ remediation staff note that nitrates have migrated offsite with the potential to create a parallel plume. Any additional requests or additional monitoring will be handled as part of the Groundwater Monitoring Plan and Corrective Action Plan (CAP). Please see Fact Sheet Section 21.j for further discussion on the CAP.

TABLE 1 – Outfall Description

Outfall Number*	Discharge Sources	Treatment	Total Acres and Calculated Maximum Flow (25 yr storm)	Outfall Latitude and Longitude
002	Industrial Storm Water located at the southeast side of the property drains the potash building, a portion of the railroad spur, and a grassy area.	See Item 10 above.	0.2 acres/0.0179 MGD	38° 15' 59.93" 77° 18' 18.48"
003	Industrial Storm Water located at the RR Tracks West of Outfall 002 drains the discharge from the pond, and a majority of the site.	See Item 10 above	9.3 acres/1.093 MGD	38° 16' 00.12" 77° 18' 22.44"
004	Industrial Storm Water located at the Northeast corner of the property drains the field, an on-site road and the lime pile.	See Item 10 above	2.6 acres/0.146 MGD	38° 16' 05.63" 77° 18' 18.32"
See Attachment 4 for Passapatanzy, DEQ #182D topographic map.				

*Note: Due to property line changes, Outfall 001 and Internal Outfall 101 were eliminated from the permit during the 2008 permit reissuance. The outfall numbering was not changed since Outfalls 001 and 101 remain in historical records.

11. Solids Treatment and Disposal Methods:

This is an industrial facility. The facility does not produce sewage sludge and does not treat domestic sewage.

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge

TABLE 2	
VA0090654	Greenhost discharge from outfall 001 into Birchwood Run, UT. River mile 0.83.

13. Material Storage:

See Attachment 5 for a list of chemicals stored on site.

14. Site Inspection:

Performed by DEQ permitting and compliance staff on November 29, 2012 (Attachment 6).

15. Receiving Stream Water Quality and Water Quality Standards:

a) Ambient Water Quality Data

This facility discharges into several unnamed tributaries to Birchwood Run. There are no DEQ water quality monitoring station on any of the unnamed tributaries to Birchwood Run, or on Birchwood Run. The nearest downstream DEQ monitoring station is located on the tidal freshwater portion of the Rappahannock River. Station 3-RPP091.55 is located approximately 6.15 rivermiles downstream from outfall 002; 6.21 rivermiles downstream from Outfall 003; and 4.89 rivermiles downstream from outfall 004. The following is the water quality summary for the tidal, freshwater Rappahannock River at Station 3-RPP091.55, as taken from the Draft 2012 Integrated Assessment*:

Class II, Section 1, special stds. a.

DEQ Chesapeake Bay and ambient stations 3-RPP088.22, located near the confluence with Jones Top Creek; 3-RPP091.55 at Buoy 89; and 3-RPP095.56, located approximately 500 yards upstream from the Four Winds Campground boat ramp. Fish consumption use assessed using DEQ fish tissue/sediment station 3-RPP080.19, located in a downstream segment.

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory and sufficient excursions above the fish tissue value (TV) for PCBs in fish tissue. Additionally, excursions above the risk-based tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue was recorded in one specie of fish (1 total samples) collected in 2006 at monitoring station 3-RPP080.19 (channel catfish), noted by an observed effect.

The wildlife, recreation and aquatic life uses are considered fully supporting. The shellfishing use was not assessed.

The aquatic life use is listed as Category 3B because sufficient data are not available to show that all aquatic life sub-uses are being met.

* Virginia's Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently awaiting final approval.

b) 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

TABLE 3 Information on Downstream 303(d) Impairments and TMDLs

Waterbody Name	Impaired Use	Cause	Distance From Outfalls	TMDL Completed	WLA	Basis for WLA	TMDL Schedule
Impairment Information in the Draft* 2012 Integrated Report							
Rappahannock River	Fish Consumption	PCBs	4.65 miles from 002 4.71 miles from 003 3.39 miles from 004	No	NA	NA	2018

* Virginia's Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently awaiting final approval.

Significant portions of the Chesapeake Bay and its tributaries are listed as impaired on Virginia's 303(d) list of impaired waters for not meeting the aquatic life use support goal, and the draft 2012 Virginia Water Quality Assessment 305(b)/303(d) Integrated Report indicates that much of the mainstem Bay does not fully support this use support goal under Virginia's Water Quality Assessment guidelines. Nutrient enrichment is cited as one of the primary causes of impairment. EPA issued the Bay TMDL on December 29, 2010. It was based, in part, on the Watershed Implementation Plans developed by the Bay watershed states and the District of Columbia.

The Chesapeake Bay TMDL addresses all segments of the Bay and its tidal tributaries that are on the impaired waters list. As with all TMDLs, a maximum aggregate watershed pollutant loading necessary to achieve the Chesapeake Bay's water quality standards has been identified. This aggregate watershed loading is divided among the Bay states and their major tributary basins, as well as by major source categories [wastewater, urban storm water, onsite/septic agriculture, air deposition]. Fact Sheet Section 17.e provides additional information on specific nutrient monitoring for this facility to implement the provisions of the Chesapeake Bay TMDL.

The full planning statement is found in Attachment 7.

c) Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving streams, unnamed tributaries to Birchwood Run Creek, are located within Section 4 of the Rappahannock River Basin, and classified as Class III waters.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0-9.0 standard units (S.U.).

Attachment 8 details other water quality criteria applicable to the receiving stream.

Ammonia:
The fresh water, aquatic life Water Quality Criteria for Ammonia are dependent on the instream temperature and pH. The 90th percentile temperature and pH values are used because they best represent the critical design conditions of the receiving stream. Ambient water quality data for the streams are not available since they are dry ditches conveying stormwater; for streams such as these, the 7Q10 and 1Q10 are 0.0 MGD. In cases such as this, effluent pH and temperature data may be used to establish the ammonia water quality standards.

No effluent temperature data is available; therefore, per staff guidance, a default temperature value of 25°C was used for the annual period and 15°C was used for the high flow period. Staff used a 90th percentile pH value of 7.47 s.u. to establish the ammonia criteria in the last permit cycle. All available effluent pH data from all three outfalls from July 2008 to December 2012 were reviewed and the 90th percentile pH value calculated. The 90th percentile value is 7.45 s.u. and was used to establish ammonia criteria in this reissuance. See Attachment 8 for the ammonia criteria and pH data.

Metals Criteria:
The Water Quality Criteria for some metals are dependent on the receiving stream's hardness (expressed as mg/L calcium carbonate). The critical flows of the receiving streams are zero and no ambient data is available, so the effluent data for hardness can be used to determine the metals criteria. The hardness-dependent metals criteria in Attachment 8 are based on an effluent value of 100 mg/L which was submitted as part of the last reissuance since there is no new total hardness data. The Certificate of Analysis from this analysis is found in Attachment 8.

d) Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving streams, Birchwood Run Creek unnamed tributaries, are located within Section 4 of the Rappahannock River Basin. This section has been designated a Class III water with no special standard designations.

e) Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on February 27, 2013 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Bald Eagle. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

The stream that the facility discharges to is within a reach identified as having an Anadromous Fish Use. It is staff's best professional judgment that the proposed limits are protective of this use.

The database search can be found in Attachment 9.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving streams have a 1Q10 and a 7Q10 of zero (0) MGD, and there can be periods when the receiving streams might be comprised solely of stormwater runoff effluent from the facility. The drainage areas for the receiving streams are very small, and the unnamed tributaries are usually dry. Effluent limits established for this facility must meet and protect all applicable water quality criteria; therefore, the receiving streams have been classified as Tier 1. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving streams, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA) are calculated. In this case since the critical flows 7Q10 and 1Q10 have been determined to be zero, the WLA's are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency, and statistical characteristics of the effluent data.

a) Effluent Screening:
Effluent data obtained from the permit application and Discharge Monitoring Reports (DMRs) has been reviewed and determined to be suitable for evaluation. The following pollutants require further analysis and discussion: Ammonia as N, Dissolved Zinc, and Dissolved Copper.

b) Mixing Zones and Wasteload Allocations (WLAs):
Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where:
- WLA = Wasteload allocation
- C_o = In-stream water quality criteria
- Q_e = Design flow
- Q_s = Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; 30Q10 for ammonia criteria; harmonic mean for carcinogen-human health criteria; and 30Q5 for non-carcinogen human health criteria)
- f = Decimal fraction of critical flow
- C_s = Mean background concentration of parameter in the receiving stream.

The water segments receiving the discharges via Outfalls 002, 003, and 004 are considered to have a 7Q10 and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o.

c) Effluent Limitations, Outfalls 002, 003, and 004 – Storm Water Only Pollutants.

Outfall 002
The facility was required by the current permit to monitor for dissolved metals and Ammonia as N once during the permit term. The only metal detected was Dissolved Zinc with a concentration of 120 ug/L. The effluent had an ammonia concentration of 4.3 ug/L.

Outfall 003
The current permit required annual monitoring for Dissolved Copper at this outfall. The reported value for the three most recent samples from 2010, 2011, and 2012 were <20 ug/L. In 2009, the reported value was 7 ug/L. In 2008, the reported value was 7 ug/L. The analysis done as part of the application had a value of <20 ug/L. No other metals were above detection.

The current permit also required Ammonia as N semi-annual monitoring. All available effluent data from the outfall from July 2008 to December 2012 was reviewed. Concentrations ranged from 0.31 mg/L to 24 mg/L.

Outfall 004
The facility was required by the current permit to monitor for dissolved metals and Ammonia as N once during the permit term. The metals above the detection level of the laboratory were Dissolved Copper with a concentration of 120 ug/L and Dissolved Zinc with a concentration of 72 ug/L. The effluent had an ammonia concentration of 5.6 mg/L.

These storm water discharges are considered intermittent and as such, the primary concern would be acute water quality impacts. The duration of this discharge is not expected to occur for four or more consecutive days (96 hours). Water Quality Criteria for human health (and chronic toxicity to a lesser degree) are based upon long term, continuous exposure to pollutants from effluents, and storm water discharges are short term and intermittent. Therefore, it is believed that acute criteria should be used to derive the screening criteria.

Screening (i.e., decision) values expressed as monitoring end-points have been established at two times the acute water quality criterion established in the Virginia Water Quality Standards (9VAC25-260 et.seq.). There two primary reasons the end-points are established at two times the criterion. First, the acute criterion is defined as one-half of the final acute value (FAV) for a specific toxic pollutant. The FAV is determined from exposure of the specific toxicant to a variety of aquatic species, and is based on the level of a chemical or mixture of chemicals that does not allow the mortality, or other specified response, of aquatic organisms. These criteria represent maximum pollutant concentration values, which when exceeded, would cause acute effects on aquatic life in a short time period.

Second, if it is raining a sufficient amount to generate a discharge of storm water, it is assumed that the receiving stream flow will be greater than the critical flows of zero million gallons per day for intermittent streams due to storm water runoff within the stream's drainage area. In recognition of the FAV and the

dilution caused by the rainfall, the monitoring end points were calculated by multiplying the acute Water Quality Criteria by two (2). The acute criterion and monitoring end-points established in the permit are presented in Table 4.

These monitoring end-point screening values are applied solely to identify those pollutants that should be given special emphasis during development of the Storm Water Pollution Prevention Plan (SWPPP). Storm water outfall data (pollutant specific) submitted by the permittee which are above the established monitoring end-point levels requires monitoring in Part I.A. of the permit for that specific outfall and pollutant. Should storm water outfall monitoring data exceed the established monitoring end point, the permittee shall reexamine the effectiveness of the SWPPP and BMPs in use and modify as necessary to address any deficiencies that caused the exceedances. Derivation of the criteria is provided in Attachment 8.

TABLE 4 – Monitoring End Points

Parameter	Acute Criteria	Monitoring End Point 2 x Acute Criteria
Ammonia, as N	21.4 mg/L	42.8 mg/L
Dissolved Copper	13 µg/L	26 µg/L
Dissolved Zinc	120 µg/L	240 µg/L

The quantification level used by the permittee for the Outfall 003 dissolved copper samples from 2010-2012 as well as for the sampling done as part of the application was above the quantification level specified in the permit. However, the quantification level is less than the screening value established as part of this reissuance. Therefore, staff can use the data to make decisions for this permit reissuance.

No further monitoring shall be required for Outfall 003 since all Dissolved Copper values are less than the Monitoring End Point of 26 ug/L. It is staff's best professional judgment that the following annual monitoring be implemented for the next permit cycle:

Outfall 002 Dissolved Zinc Monitoring
Outfall 004 Dissolved Copper and Dissolved Zinc Monitoring

Since the water quality criteria for both of these metals are hardness-dependent, staff shall also have the permittee monitor for Total Hardness at both of these outfalls. The permittee shall select a method and quantification level that can demonstrate that the effluent concentrations are below the Monitoring End Points established in Table 4 above.

Ammonia as N semi-annual monitoring at Outfall 003 has had one sample (Jan-Jun 2010 – 24 mg/L) exceed the established Acute Criteria, but it did not exceed the newly established Monitoring End Point. It is staff's best professional judgment that this monitoring remain to continue to demonstrate that no problems are occurring from the discharge from the stormwater pond.

The Ammonia as N concentrations from Outfall 002 and 004 are significantly below the established Acute Criteria, so monitoring shall not be required except through the Attachment A monitoring described in Section 21.e of this Fact Sheet.

d) Effluent Limitations – Federal Effluent Guidelines.

The discharge from this industrial discharge is covered by effluent guidelines established in 40 CFR – Part 418, Subpart G–Mixed and Blend Fertilizer Production Subcategory, states that there shall be no discharge of process wastewater pollutants into navigable waters.

e) Effluent Annual Average Limitations and Monitoring – Nutrients

VPDES Regulation 9VAC25-31-220(D) requires effluent limitations that are protective of both the numerical and narrative water quality standards for state waters, including the Chesapeake Bay.

As discussed in Section 15, significant portions of the Chesapeake Bay and its tributaries are listed as impaired with nutrient enrichment cited as one of the primary causes. Virginia has committed to protecting and restoring the Bay and its tributaries.

Monitoring for Total Nitrogen, Total Phosphorus, Nitrate as N, and Ammonia as N were included in the current permit for Outfall 003 and shall continue with this reissuance.

With this reissuance, staff is adding Total Nitrogen, Total Phosphorus, and Nitrate as N for Outfall 002 and 004 since there is reasonable potential for there to be nutrients in the stormwater runoff due to the storage of bulk fertilizer components in the potash building in the drainage area of Outfall 002 and the concentrations of Nitrates and Total Phosphorus noted in the data submitted with the application for both outfalls. The monitoring is needed to protect the Water Quality Standards of the Chesapeake Bay. Monitoring frequencies are based on the frequency proposed in DEQ Guidance Memorandum 93-010 and staff's best professional judgment.

f) Effluent Limitations and Monitoring Summary.

The effluent limitations are presented in the following tables. Limits were established for pH. Monitoring was established for Flow, Total Suspended Solids, Ammonia as N, Nitrate as N, Total Nitrogen, Total Phosphorus, Total Petroleum Hydrocarbons, Chemical Oxygen Demand, Dissolved Zinc, Total Hardness, and Dissolved Copper.

DEQ Guidance 93-010 "VPDES Permitting Strategy for Storm Water Discharges Associated with Industrial Activity", recommends annual monitoring at the stormwater outfalls for flow, Total Petroleum Hydrocarbons, Total Suspended Solids and Chemical Oxygen Demand.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19.a. Effluent Limitations/Monitoring Requirements Outfall 002:

Maximum Estimated Flow based on runoff projections of this Industrial Facility is 0.0179 MGD.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/6M	Estimate
pH	2, 3	NA	NA	6.0 S.U.	9.0 S.U.	1/6M	Grab
Nitrate as N	2	NA	NA	NA	NL (mg/L)	1/6M	Grab
Total Nitrogen*	2, 5	NA	NA	NA	NL (mg/L)	1/6M	Grab
Total Phosphorus	2, 5	NA	NA	NA	NL (mg/L)	1/6M	Grab
Chemical Oxygen Demand (COD)	4	NA	NA	NA	NL (mg/L)	1/YR	Grab
Total Suspended Solids (TSS)	4	NA	NA	NA	NL (mg/L)	1/YR	Grab
Total Petroleum Hydrocarbons**	2, 4	NA	NA	NA	NL (mg/L)	1/YR	Grab
Dissolved Zinc	2, 3	NA	NA	NA	NL (ug/L)	1/YR	Grab
Total Hardness	2, 3	NA	NA	NA	NL (mg/L)	1/YR	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgment
3. Water Quality Standards
4. DEQ Guidance
5. 9VAC25-40 (Nutrient Regulation)

MGD = Million gallons per day.
NA = Not Applicable
NL = No limit; monitor and report.
S.U. = Standard units.

1/6M = Once every six months.
1/YR = Once every year.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

* Total Nitrogen = TKN plus Nitrate + Nitrite.
* Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended.

The semiannual monitoring periods shall be January through June and July through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

The annual monitoring period shall be January through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

19.b. Effluent Limitations/Monitoring Requirements Outfall 003:

Maximum Estimated Flow based on runoff projections of this Industrial Facility is 1.09 MGD.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/6M	Estimate
pH	2, 3	NA	NA	6.0 S.U.	9.0 S.U.	1/6M	Grab
Ammonia, as N	2	NA	NA	NA	NL (mg/L)	1/6M	Grab
Nitrate as N	2	NA	NA	NA	NL (mg/L)	1/6M	Grab
Total Nitrogen*	2, 5	NA	NA	NA	NL (mg/L)	1/6M	Grab
Total Phosphorus	2, 5	NA	NA	NA	NL (mg/L)	1/6M	Grab
Chemical Oxygen Demand (COD)	4	NA	NA	NA	NL (mg/L)	1/YR	Grab
Total Suspended Solids (TSS)	4	NA	NA	NA	NL (mg/L)	1/YR	Grab
Total Petroleum Hydrocarbons**	2, 4	NA	NA	NA	NL (mg/L)	1/YR	Grab

The basis for the limitations codes are:
1. Federal Effluent Requirements
2. Best Professional Judgment
3. Water Quality Standards
4. DEQ Guidance
5. 9VAC25-40 (Nutrient Regulation)

MGD = Million gallons per day.
NA = Not Applicable
NL = No limit; monitor and report.
S.U. = Standard units.

1/6M = Once every six months.
1/YR = Once every year.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

* Total Nitrogen = TKN plus Nitrate + Nitrite.
** Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended.

The semiannual monitoring periods shall be January through June and July through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

The annual monitoring period shall be January through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

19.c. Effluent Limitations/Monitoring Requirements Outfall 004:

Maximum Estimated Flow based on runoff projections of this Industrial Facility is 0.146 MGD.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/6M	Estimate
pH	2, 3	NA	NA	6.0 S.U.	9.0 S.U.	1/6M	Grab
Nitrate as N	2	NA	NA	NA	NL (mg/L)	1/6M	Grab
Total Nitrogen*	2, 5	NA	NA	NA	NL (mg/L)	1/6M	Grab
Total Phosphorus	2, 5	NA	NA	NA	NL (mg/L)	1/6M	Grab
Chemical Oxygen Demand (COD)	4	NA	NA	NA	NL (mg/L)	1/YR	Grab
Total Suspended Solids (TSS)	4	NA	NA	NA	NL (mg/L)	1/YR	Grab
Total Petroleum Hydrocarbons**	2, 4	NA	NA	NA	NL (mg/L)	1/YR	Grab
Dissolved Copper	2, 3	NA	NA	NA	NL (ug/L)	1/YR	Grab
Dissolved Zinc	2, 3	NA	NA	NA	NL (ug/L)	1/YR	Grab
Total Hardness	2, 3	NA	NA	NA	NL (mg/L)	1/YR	Grab

The basis for the limitations codes are:
1. Federal Effluent Requirements
2. Best Professional Judgment
3. Water Quality Standards
4. DEQ Guidance

MGD = Million gallons per day.
NA = Not Applicable
NL = No limit; monitor and report.
S.U. = Standard units.

1/6M = Once every six months.
1/YR = Once every year.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

* Total Nitrogen = TKN plus Nitrate + Nitrite.
** Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended.

The semiannual monitoring periods shall be January through June and July through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

The annual monitoring period shall be January through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

20. Other Permit Requirements:

a) Part I.B. of the permit contains quantification levels and compliance reporting instructions. 9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

b) Permit Section Part I.C. details the requirements of a Storm Water Management Plan. Industrial storm water discharges may contain pollutants in quantities that could adversely affect water quality. Storm water discharges which are discharged through a conveyance or outfall are considered point sources and require coverage by a VPDES permit. The primary method to reduce or eliminate pollutants in storm water discharges from an industrial facility is through the use of best management practices (BMPs). Storm Water Management Plan requirements are derived from the VPDES General Permit for Storm Water Discharges Associated with Industrial Activity, 9VAC25-151 et seq.

21. Other Special Conditions:

a) O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. Within 90 days of the effective date of this permit, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual or a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

b) Notification Levels The permittee shall notify the Department as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

(1) One hundred micrograms per liter;

(2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;

(3) Five times the maximum concentration value reported for that pollutant in the permit application; or

(4) The level established by the Board.

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

(1) Five hundred micrograms per liter;

(2) One milligram per liter for antimony;

(3) Ten times the maximum concentration value reported for that pollutant in the permit application; or

(4) The level established by the Board.

c) Materials Handling/Storage. 9VAC25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.

d) Water Quality Criteria Reopener. The VPDES Permit Regulation at 9VAC25-31-220 D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should data collected and submitted for Attachment A of the permit, indicate the need for limits to ensure protection of water quality criteria, the permit may be modified or alternately revoked and reissued to impose such water quality-based limitations.

e) Water Quality Criteria Monitoring. State Water Control Law §62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. States are required to review data on discharges to identify actual or potential toxicity problems, or the attainment of water quality goals, according to 40 CFR Part 131, Water Quality Standards, subpart 131.11. To ensure that water quality criteria are maintained, the permittee is required to analyze the facility's effluent from each of the outfalls for the substances noted in Attachment A of this VPDES permit.

f) BMP. A Best Management Practices (BMP) plan for control of leaks, spills and storm water runoff from the facility shall be developed and submitted for staff approval within 90 days of the effective date of this permit. Upon approval, the BMP plan becomes an enforceable part of the permit. The permittee shall amend the BMP plan whenever there is a change in the facility or operation of the facility which materially increases the potential to discharge significant amounts of pollutants or if the BMP plan proves to be ineffective in preventing the release of significant amounts of pollutants. Changes to the BMP plan shall be submitted for staff approval within 90 days of the effective date of the changes. Upon approval, the amended BMP plan becomes an enforceable part of the permit.

g) Storm Water Monitoring. Storm water monitoring end points have been established with this permit reissuance for all parameters requiring a wasteload allocation analysis. The permittee shall conduct all storm water monitoring in accordance with Part I.A of the permit.

Parameter	Monitoring End Point
Ammonia as N	42.8 mg/L
Dissolved Copper	26 µg/L
Dissolved Zinc	240 ug/L

Should the storm water monitoring results for a given parameter exceed the end point below, the permittee shall reexamine the effectiveness of the SWPPP and BMPs in use and within 30 days modify as necessary to address any deficiencies that caused the exceedances. Resampling for a parameter that exceeded a monitoring end point shall occur within 30 days of any SWPPP or BMP modification. Storm water monitoring data submitted by the permittee above an established monitoring end point does not constitute a violation of the permit.

h) TMDL Reopener: This special condition is to allow the permit to reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.

i) Groundwater Monitoring Plan. Groundwater monitoring at the facility has demonstrated that the groundwater is contaminated with Nitrate-Nitrogen. The permittee shall continue sampling and reporting in accordance with the ground water monitoring plan approved on April 13, 2012 and titled "Corrective Action Plan – Modified and Groundwater Monitoring Plan." The purpose of this plan is to determine if the system integrity is being maintained and to indicate if activities at the site are resulting in violations of the Board's Ground Water Standards. The approved plan is an enforceable part of the permit. Any changes to the plan must be submitted for approval to the DEQ-Northern Regional Office.

j) Groundwater Corrective Action Plan. The facility shall maintain an approvable Corrective Action Plan (CAP) for the remediation of the nitrate contamination plume under the facility property. The Corrective Action Plan was approved on April 13, 2012 and titled "Corrective Action Plan – Modified and Groundwater Monitoring Plan"; this plan and/or analysis shall be incorporated into the permit by reference and become an enforceable part of this permit The groundwater collected from the remediation project is prohibited from being discharged to State Waters. Annually, the permittee shall submit an assessment of the groundwater remediation project and a demonstration of effective capture of contaminants associated with the facility. The Assessment shall be reviewed and certified by a Professional Geologist prior to submittal to DEQ. If effective capture cannot be demonstrated, upon notification in writing by DEQ, the permittee shall submit an approvable plan and schedule for effective capture of contaminants. Upon approval, the plan shall become an enforceable condition of the permit.

DEQ will continue additional discussions to address the groundwater remediation as it relates to the Groundwater Monitoring Plan and the Corrective Action Plan. The 2012 Corrective Action Assessment can be found in Attachment 10.

k) Nutrient Reopener. 9VAC25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade. 9VAC25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

22. Changes to the Permit from the Previously Issued Permit:

a) Special Conditions:
1) The Groundwater Monitoring Special Condition was updated.
2) The Groundwater Corrective Action Plan Special Condition was updated.
3) A Stormwater Monitoring Special Condition with monitoring end points was added.

b) Monitoring and Effluent Limitations:
1) For Outfall 002, Dissolved Zinc, Total Hardness, Total Nitrogen, Nitrate as N, and Total Phosphorus monitoring were added based on data submitted as part of the reissuance application.
2) For Outfall 003
3) For Outfall 004, Dissolved Zinc, Dissolved Copper, Total Hardness, Total Nitrogen, Nitrate as N, and Total Phosphorus monitoring were added based on data submitted as part of the reissuance application.

c) Additional Changes:
1) Part II.A of the permit was updated to add language regarding the VELAP program.

23. Variances/Alternate Limits or Conditions:

None

24. Public Notice Information:

First Public Notice Date: 5/15/13 Second Public Notice Date: 5/22/13

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3834, alison.thompson@deq.virginia.gov. See Attachment 11 for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

25. Additional Comments:
Previous Board Action(s): None.

Staff Comments: No additional comments.

Public Comment:

EPA Checklist: The checklist can be found in Attachment 12.

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: Flow Frequency Determination
Lebanon Agricorp Piedmont Fertilizer - #VA0088374

TO: April Young, NRO

FROM: Paul Herman, OWRM-WQAP Paul

DATE: April 14, 1994

COPIES: Ron Gregory, Charles Martin, Dale Phillips, Curt Wells, File

The Lebanon Agricorp Piedmont Fertilizer discharges to an unnamed tributary of the Birchwood Run. Flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The values at the discharge point were determined by inspection of the Passapatanzy Quadrangle topographical map which shows the receiving stream as dry ditch along an abandoned railroad track. The flow frequencies for dry ditches are 0.0 cfs for the 1Q10, 7Q10, 30Q5 and high flow 1Q10 and 7Q10; the harmonic mean is undefined. There is no measureable drainage area above the discharge point.

If you have any questions concerning this analysis, please let me know.

Attachment 1

NPDES PERMIT RATING WORK SHEET

[X] Regular Addition
[ ] Discretionary Addition
[ ] Score change, but no status Change
[ ] Deletion

VPDES NO. : VA0088374

Facility Name: Crop Production Services, Inc.
City / County: Sealston/King George
Receiving Water: UTs, Birchwood Run Creek
Reach Number:

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power Plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rater

[ ] Yes; score is 600 (stop here) [X] NO; (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

[ ] YES; score is 700 (stop here)
[X] NO; (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: _____ Primary Sic Code: 2875 Other Sic Codes: 5191 _____ _____

Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[X] No process waste streams	0	0	[ ] 3.	3	15	[ ] 7.	7	35
[ ] 1.	1	5	[ ] 4.	4	20	[ ] 8.	8	40
[ ] 2.	2	10	[ ] 5.	5	25	[ ] 9.	9	45
			[ ] 6.	6	30	[ ] 10.	10	50

Code Number Checked: 0

Total Points Factor 1: 0

FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A – Wastewater Flow Only considered

Wastewater Type (see Instructions)			Code	Points
Type I:	Flow < 5 MGD	[ ]	11	0
	Flow 5 to 10 MGD	[ ]	12	10
	Flow > 10 to 50 MGD	[ ]	13	20
	Flow > 50 MGD	[ ]	14	30
Type II:	Flow < 1 MGD	[X]	21	10
	Flow 1 to 5 MGD	[ ]	22	20
	Flow > 5 to 10 MGD	[ ]	23	30
	Flow > 10 MGD	[ ]	24	50
Type III:	Flow < 1 MGD	[ ]	31	0
	Flow 1 to 5 MGD	[ ]	32	10
	Flow > 5 to 10 MGD	[ ]	33	20
	Flow > 10 MGD	[ ]	34	30

Section B – Wastewater and Stream Flow Considered

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	[ ]	41	0
	10 % to < 50 %	[ ]	42	10
	> 50%	[ ]	43	20
Type II:	< 10 %	[ ]	51	0
	10 % to < 50 %	[ ]	52	20
	> 50 %	[ ]	53	30

Code Checked from Section A or B: 21

Total Points Factor 2: 10

NPDES PERMIT RATING WORK SHEET

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) [X] BOD [ ] COD [ ] Other: _____

Permit Limits: (check one)	Code	Points
[X] < 100 lbs/day	1	0
[ ] 100 to 1000 lbs/day	2	5
[ ] > 1000 to 3000 lbs/day	3	15
[ ] > 3000 lbs/day	4	20

Code Number Checked: 1

Points Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits: (check one)	Code	Points
[X] < 100 lbs/day	1	0
[ ] 100 to 1000 lbs/day	2	5
[ ] > 1000 to 5000 lbs/day	3	15
[ ] > 5000 lbs/day	4	20

Code Number Checked: 1

Points Scored: 0

C. Nitrogen Pollutants: (check one) [ ] Ammonia [X] Other: Nitrates

Permit Limits: (check one) *Nitrogen Equivalent*	Code	Points
[X] < 300 lbs/day	1	0
[ ] 300 to 1000 lbs/day	2	5
[ ] > 1000 to 3000 lbs/day	3	15
[ ] > 3000 lbs/day	4	20

Code Number Checked: 1

Points Scored: 0

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

[ ] YES; (If yes, check toxicity potential number below)

[X] NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1. (Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[X] No process waste streams	0	0	[ ] 3.	3	0	[ ] 7.	7	15
[ ] 1.	1	0	[ ] 4.	4	0	[ ] 8.	8	20
[ ] 2.	2	0	[ ] 5.	5	5	[ ] 9.	9	25
			[ ] 6.	6	10	[ ] 10.	10	30

Code Number Checked: 0

Total Points Factor 4: 0

NPDES PERMIT RATING WORK SHEET

FACTOR 5: Water Quality Factors

A. *Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-base federal effluent guidelines, or technology-base state effluent guidelines), or has a wasteload allocation been given to the discharge*

		Code	Points
[ ]	YES	1	10
[X]	NO	2	0

B. *Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

		Code	Points
[X]	YES	1	0
[ ]	NO	2	5

C. *Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

		Code	Points
[ ]	YES	1	10
[X]	NO	2	0

Code Number Checked: A 2 B 1 C 2

Points Factor 5: A 0 + B 0 + C 0 = **0**

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from factor 2) 21

Check appropriate facility HPRI code (from PCS):

	HPRI#	Code	HPRI Score
[ ]	1	1	20
[ ]	2	2	0
[ ]	3	3	30
[X]	4	4	0
[ ]	5	5	20

Enter the multiplication factor that corresponds to the flow code: _____

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked : 4

Base Score (HPRI Score): 0 X (Multiplication Factor) 0.10 = 0

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
[ ]	1	10
[X]	2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 area's of concern (see instructions)?

	Code	Points
[ ]	1	10
[X]	2	0

Code Number Checked: A 4 B 2 C 2

Points Factor 6: A 0 + B 0 + C 0 = **0**

NPDES PERMIT RATING WORK SHEET

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	0
2	Flows / Streamflow Volume	10
3	Conventional Pollutants	0
4	Public Health Impacts	0
5	Water Quality Factors	0
6	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	10

S1. Is the total score equal to or grater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE : 10

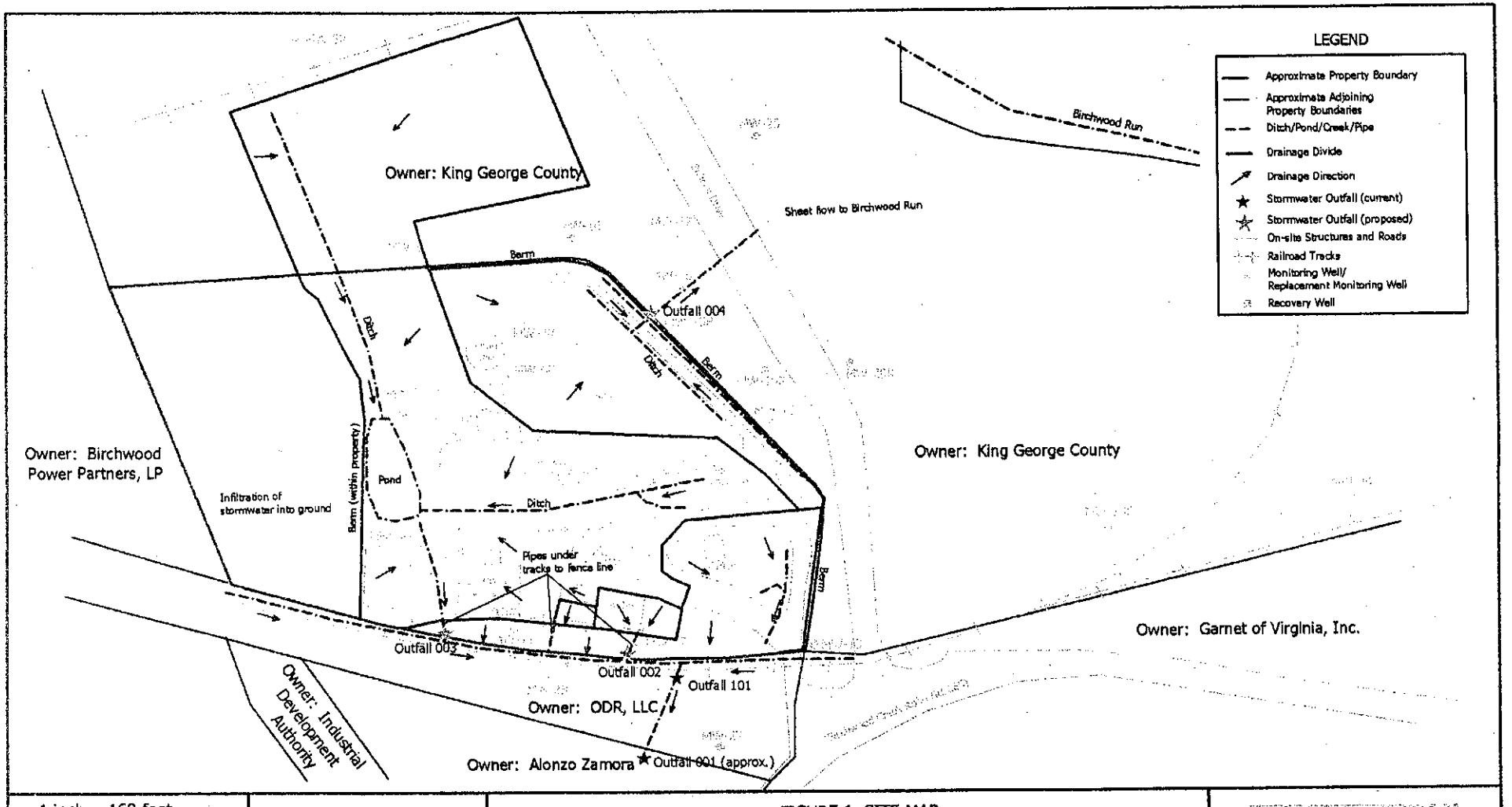
OLD SCORE : 10

Permit Reviewer's Name : Alison Thompson

Phone Number: (703)583-3834

Date: 02/27/13

Attachment 3

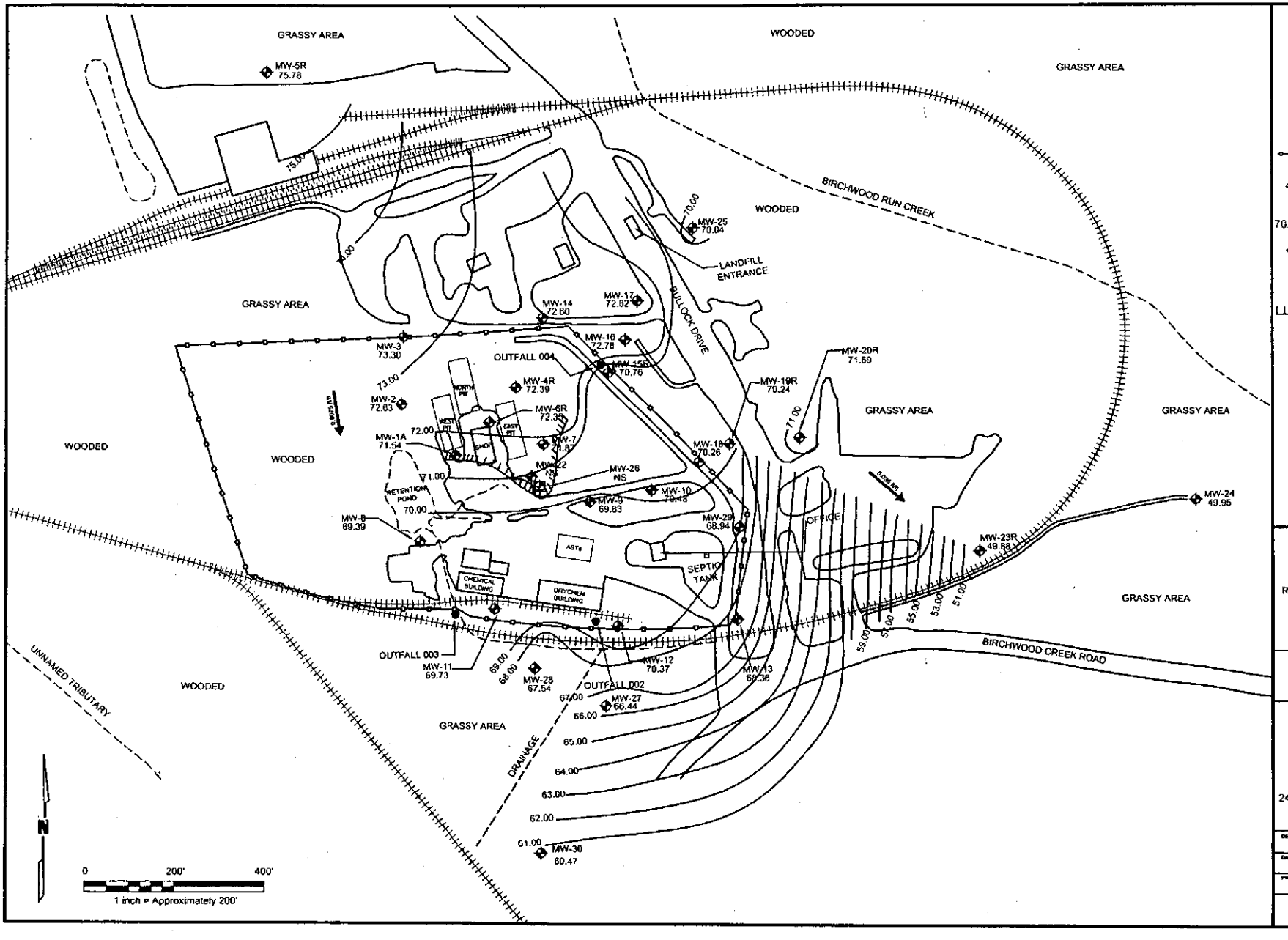


1 inch = 160 feet
DATE: 12/12/07
REVISED: 3/20/08
BAY # 05-003-04
DRAWN BY: SSH

NORTH

FIGURE 1: SITE MAP
CROP PRODUCTION SERVICES
Piedmont Fertilizer Facility
Sealston, Virginia

BAY ENVIRONMENTAL INC.
Environmental Consulting Services



LEGEND

- MONITORING WELL
- RECOVERY WELL
- OUTFALL LOCATIONS
- FENCED PROPERTY BOUNDARY
- 49.95 GROUNDWATER ELEVATION
- 70.00 GROUNDWATER CONTOUR
- GROUNDWATER DIRECTION AND GRADIENT
- ESTIMATED ZONE OF CAPTURE

RUBIK ENVIRONMENTAL, INC.

527 Lander Street, Suite 204
Reno, Nevada 89509
(775) 622-0857

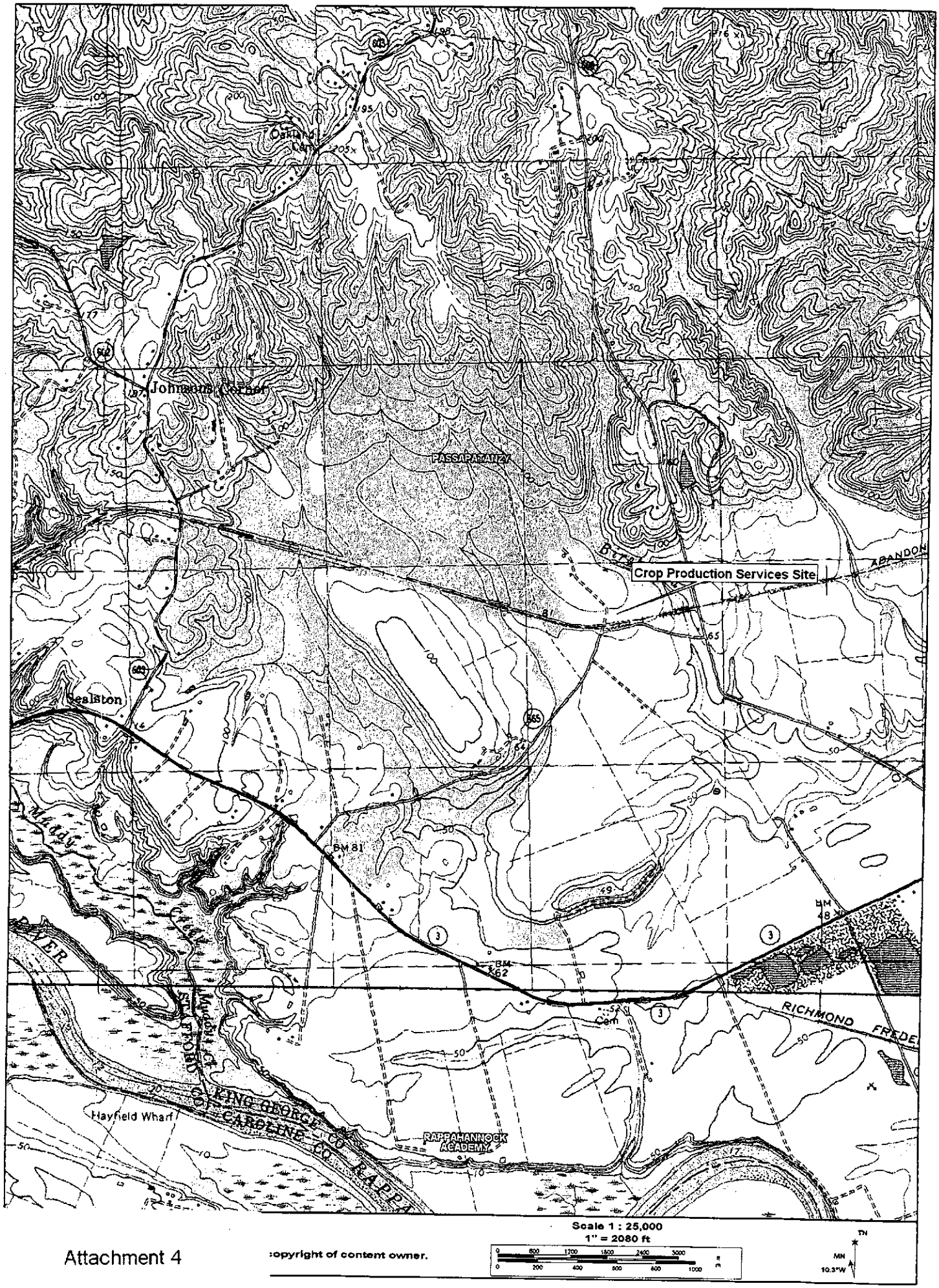
PREPARED FOR:
CROP PRODUCTION SERVICES

GROUNDWATER ELEVATION MAP NOVEMBER 2012

CPS FERTILIZER FACILITY
2453 BIRCHWOOD CREEK ROAD
SEALSTON, VIRGINIA

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	CW	CW
DATE: 02/05/2013	ACAD FILE:	
PROJECT NO.: 2013.86	PLOT SCALE: APPROX. 1" = 200'	

FIGURE 2

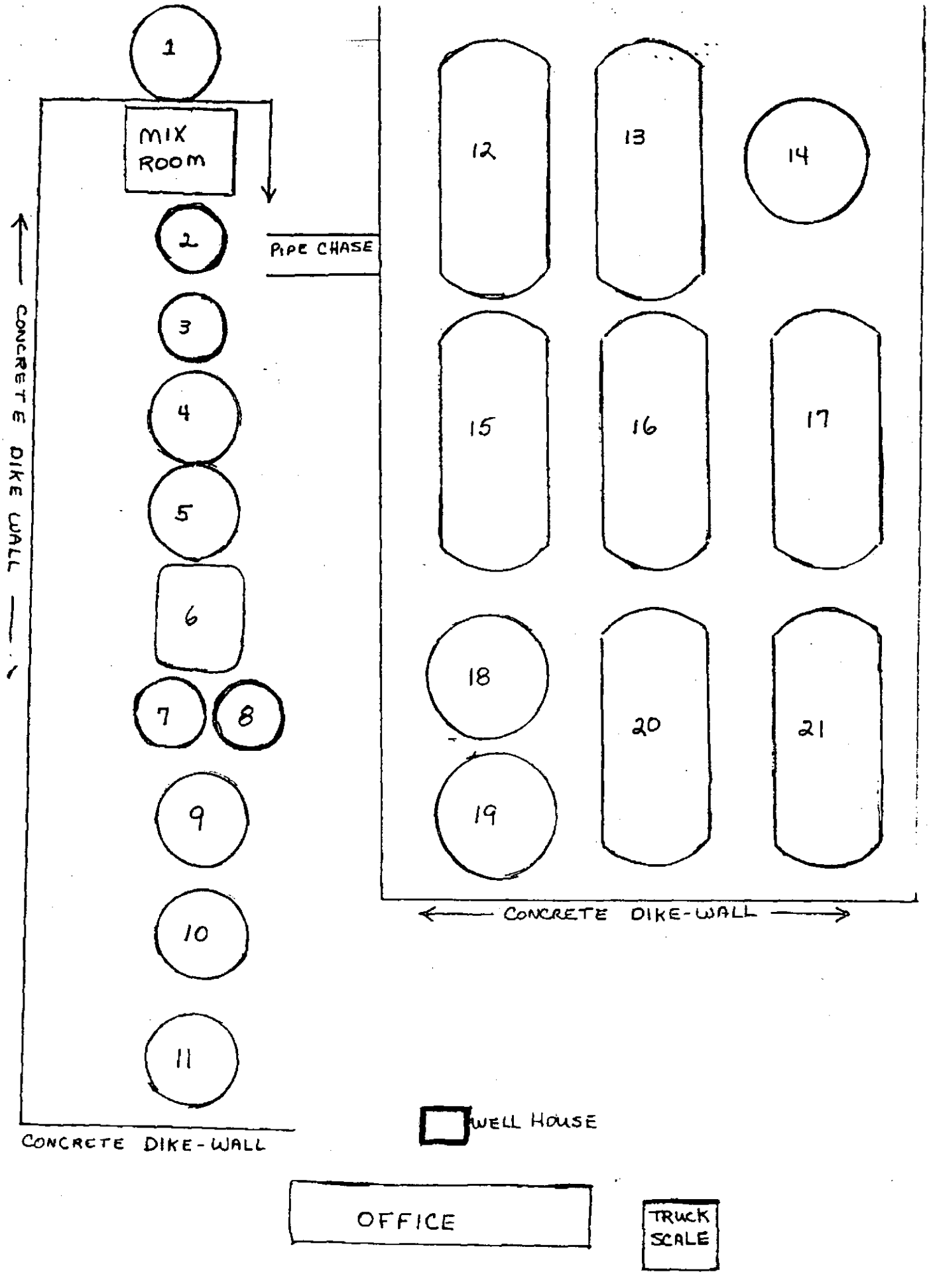


Attachment 4

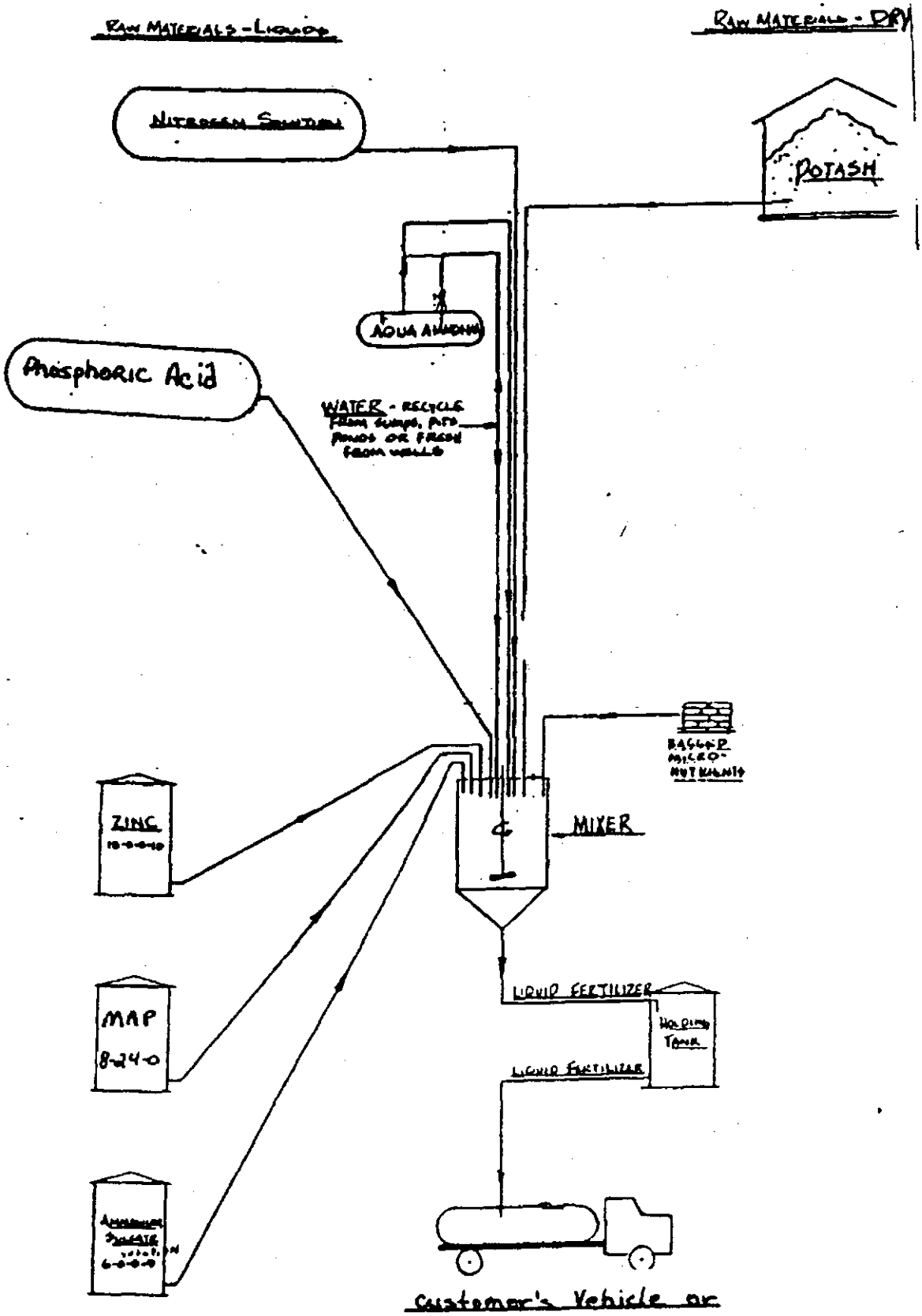
SIZE & CONTENTS OF TANKS
(Refer to Drawing)

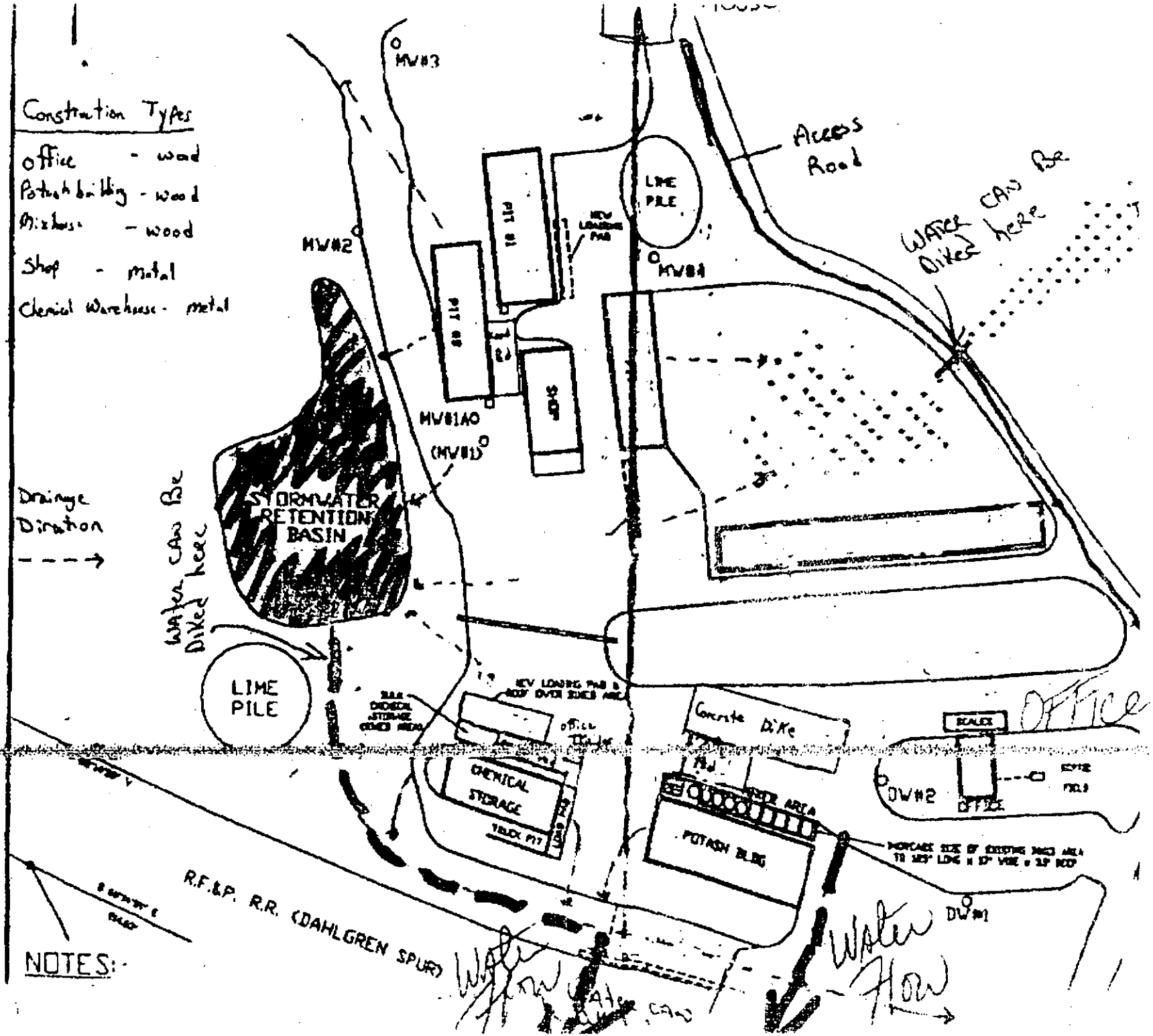
1.	24,000 Gallon	Water
2.	4,440 Gallon	Holding Tank
3.	5,600 Gallon	Holding Tank
4.	12,000 Gallon	Nitrogen Solution
5.	12,000 Gallon	Ammonium Sulfate Solution
6.	12,000 Gallon	Nitrogen Solution
7.	2,600 Gallon	Clay
8.	2,600 Gallon	Clay
9.	6,000 Gallon	Zinc
10.	6,000Gallon	Amthio
11.	6,000 Gallon	Nitrogen Solution
12.	14,568 Gallon	Aqua Ammonia
13.	14,568 Gallon	Aqua Ammonia
14.	24,238 Gallon	Ammonium Poly Phosphate
15.	14,568 Gallon	Nitrogen Solution
16.	14,568 Gallon	Nitrogen Solution
17.	14,568 Gallon	Nitrogen Solution
18.	15,000 Gallon	Phosphoric Acid
19.	12,000 Gallon	Phocphoric Acid
20.	14,568 Gallon	Map
21.	14,568 Gallon	Nitrogen Solution

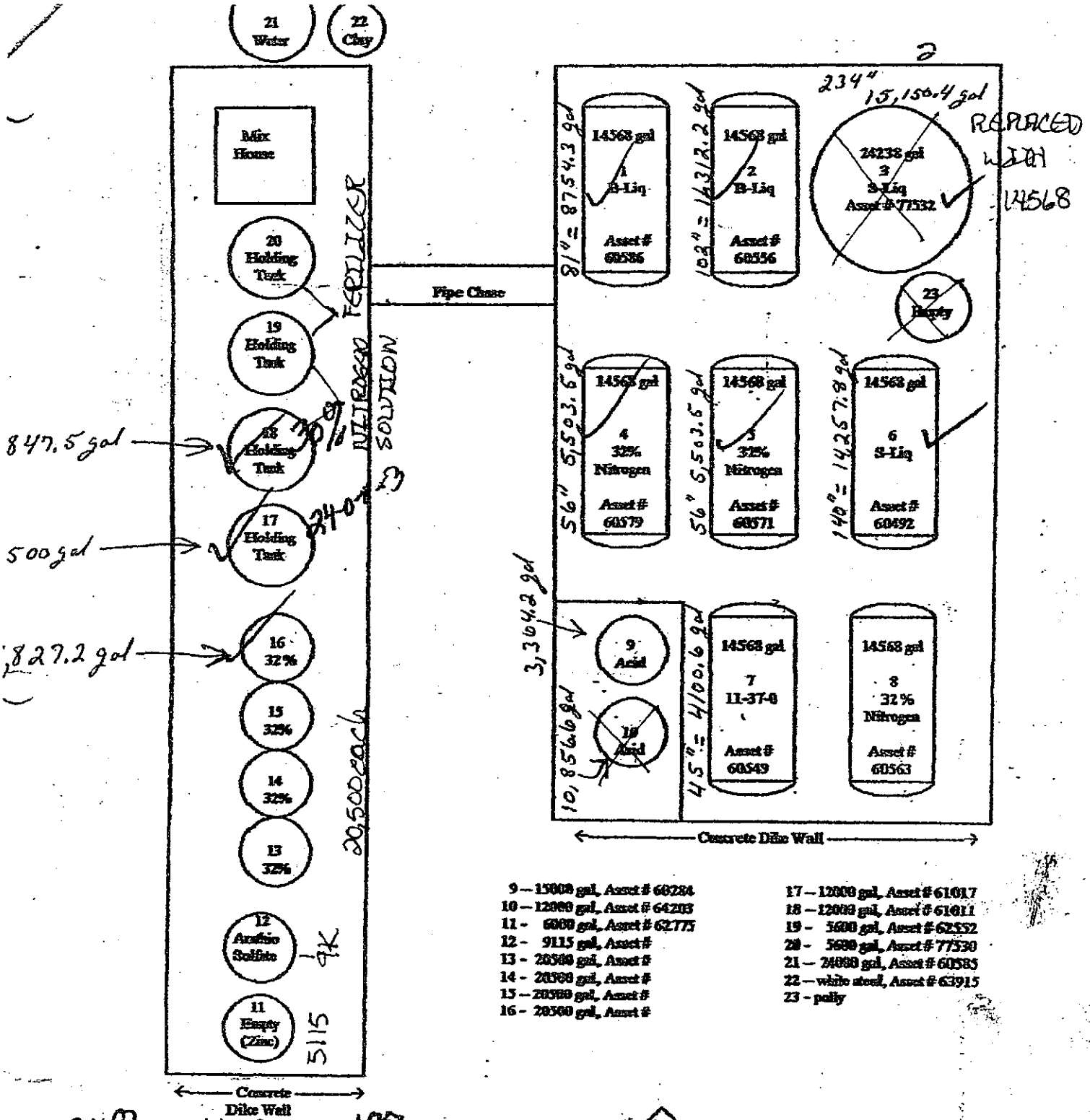
NOTE: In season due to supply and demand the product in the tanks may change from time to time.


1
MIX ROOM
2
PIPE CHASE
3
4
5
6
7
8
9
10
11
CONCRETE DIKE WALL
CONCRETE DIKE-WALL
12
13
14
15
16
17
18
19
20
21
CONCRETE DIKE-WALL
WELL HOUSE
OFFICE
TRUCK SCALE

PROCESS FLOW CHART




Construction Types
office - wood
Potash building - wood
Mixhouse - wood
Shop - metal
Chemical Warehouse - metal
Drainge Diration
MW#3
MW#2
MW#1
MW#1AO
(MW#1)
Access Road
LIME PILE
WATER CAN BE DIKED HERE
STORMWATER RETENTION BASIN
WATER CAN BE DIKED HERE
LIME PILE
CHEMICAL STORAGE
TRUCK PIT
POTASH BLDG
Concrete DIKE
SCALES
OFFICE
DW#2
DW#1
R.F.&P. R.R. (DAHLGREN SPUR)
WATER FLOW
WATER FLOW
NOTES:



REPLACED WITH 14568

9 — 15000 gal, Asset # 60284
10 — 12000 gal, Asset # 64203
11 - 6000 gal, Asset # 62775
12 - 9115 gal, Asset #
13 - 20500 gal, Asset #
14 - 20500 gal, Asset #
15 — 20500 gal, Asset #
16 - 20500 gal, Asset #
17 — 12000 gal, Asset # 61017
18 — 12000 gal, Asset # 61011
19 - 5600 gal, Asset # 62552
20 - 5600 gal, Asset # 77530
21 — 24000 gal, Asset # 60585
22 — white steel, Asset # 63915
23 - pully

Well House

Office

Truck Scale

24% - 10.7 - 187
32% - 11.05 - 181.00
30% - 10.86 - 184.00
AqNH - 7.5 - 266
NaCl - 13.8 - 145
Sulfur - 10.18 - 196

Product Listing (Inventory Count Sheet)

March 14, 2008
15:00:55

ID	Product Name	UOM	Qty On-Hand	Qty Comitted	Qty Available	Physical Cou
4100335	MN DKC61-22RR2 AR2 PM 80M	EA	132.0000	0.0000	132.0000	
4110961	PI 31P41-NM04 MR PM 80M	EA	30.0000	0.0000	30.0000	
4111865	VI V5050 MF1 CE 80M	EA		0.0000	0.0000	
4111891	VI V5110 MF2 CE 80M	EA		0.0000	0.0000	
4121330	PI 31G66-NM01 PDR PM 80M	EA	30.0000	0.0000	30.0000	
4125379	MN DKC61-45RR2/YGCB AF PM	EA	-50.0000	0.0000	-50.0000	
4127043	MN RX674RR2 AR PM 80M	EA	66.0000	0.0000	66.0000	
4136658	VI V4910 MR3 PM 80M	EA		0.0000	0.0000	
4136677	VI V49R46RR2 MR3 PM 80M	EA		0.0000	0.0000	
4136780	VI V51R36RR2 MR2 CE 80M	EA		0.0000	0.0000	
4136790	VI V51R66RR2 MR3 PM 80M	EA		0.0000	0.0000	
4136814	VI V51Y51YGCB MR3 PM 80M	EA		0.0000	0.0000	
4136817	VI V51YR62RR2/YGCB MF2 PM	EA		0.0000	0.0000	
4136820	VI V51YR62RR2/YGCB MR1 PM	EA	-25.0000	0.0000	-25.0000	
4136897	VI V52Y61YGCB MR3 PM 80M	EA		0.0000	0.0000	
4136918	VI V5330 MR3 PM 80M	EA		0.0000	0.0000	
4139490	VI V5050 MR3 CE 60M	EA		0.0000	0.0000	
4139666	PI 33M53-NM02-RR2 PDF PM	EA	132.0000	0.0000	132.0000	
4139673	PI 31P41-NM07 MF PM 80M	EA	30.0000	0.0000	30.0000	
4139828	PI 31G66-NM02 PDF PM 80M	EA	102.0000	0.0000	102.0000	
4140877	VI V52YR62RR2/YGCB MR1 PM	EA	-25.0000	0.0000	-25.0000	
4140879	VI V52YR62RR2/YGCB MR3 PM	EA		0.0000	0.0000	
4141251	MN DKC63-45RR2 AR PM 80M	EA	56.0000	0.0000	56.0000	
4141388	MN DKC62-99RR2/YGCB AR PM	EA	132.0000	0.0000	132.0000	
4141942	PI33M57-NM01HX1/LL/RR2 PDR	EA	30.0000	0.0000	30.0000	

ID	Product Name	UOM	Qty On-Hand	Qty Committed	Qty Available	Physical Count
4141945	PI33M57-NM07HX1/LL/RR2 MF	EA	20.0000	0.0000	20.0000	
4141962	PI 33V14-NM01 RR2 PDR PM 80M	EA	36.0000	0.0000	36.0000	
4141964	PI 33V14-NM04 RR2 MR PM 80M	EA	30.0000	0.0000	30.0000	
4141970	PI 33V16-NM01 RR2/YGCB PDR	EA	36.0000	0.0000	36.0000	
4141971	PI 33V16-NM02 RR2/YGCB PDF	EA	30.0000	0.0000	30.0000	
4142007	PI 34B94-NM01RR2/YGCB PDR	EA	30.0000	0.0000	30.0000	
4142009	PI 34B94-NM04RR2/YGCB MR PM	EA	102.0000	0.0000	102.0000	
4142038	PI 34F96-NM07HX1/LL/RR2 MF	EA	50.0000	0.0000	50.0000	
4142048	PI 34K78-NM07 YGCB MF PM 80M	EA	30.0000	0.0000	30.0000	
4142116	PI 35A34-NM03HX1/LL/RR2 LR	EA	3.0000	0.0000	3.0000	
4142118	PI 35A34-NMO7HX1/LL/RR2 MF	EA	-2.0000	0.0000	-2.0000	
4142315	PI 34A15-NM03 LR PM 60M	EA	40.0000	0.0000	40.0000	
4211305	PU HUTCHESON UT 50#	EA		0.0000	0.0000	
4211698	PI 94B73RR UT 2500#	EA	200.0000	0.0000	200.0000	
4211699	PI 94B73RR UT 50#	EA	660.0000	0.0000	660.0000	
4212128	VI V386RR UT 2000#	EA	160.0000	0.0000	160.0000	
4212431	VI V49N6RR/SCN UT 2000#	EA	480.0000	0.0000	480.0000	
4213502	PI 94M80RR UT 50#	EA	750.0000	0.0000	750.0000	
4214491	VI V442RR UT 50#	EA		0.0000	0.0000	
4214492	VI V442RR UT 2000#	EA		0.0000	0.0000	
4214542	PI 92M61-N201-RR/SCN UT 50#	EA		0.0000	0.0000	
4214557	PI 93M95-N201-RR/SCN UT 50#	EA	1,250.0000	0.0000	1,250.0000	
4214559	PI 93M95-N203-RR/SCN UT PB50	EA	250.0000	0.0000	250.0000	
4214579	PI 94M80-N202-RR/SCN UT 350	EA	100.0000	0.0000	100.0000	
4214677	74A27 NRSRR/STS/N UT M/B	EA		0.0000	0.0000	
4291086	VI V42N7RR/STS/N UT 2000#	EA	400.0000	0.0000	400.0000	
4310045	PI PRO BOX $510.00	EA	5.0000	0.0000	5.0000	
4310295	MED RED CLOV CD 50#	LB	350.0000	0.0000	350.0000	

ID	Product Name	UOM	Qty On-Hand	Qty Co..ed	Qty Available	Physical Cc
4310376	CREEPING RED FESCUE 50#	LB	150.0000	0.0000	150.0000	
4310403	SOUTHERN SUPRME 50#	LB	1,100.0000	0.0000	1,100.0000	
4310462	CONTRACTORS MIX 50#	LB	4,000.0000	150.0000	3,850.0000	
4310469	CONTRACTOR MIX 50#	LB	3,900.0000	600.0000	3,300.0000	
4310478	HORSE PASTURE G 25#	LB	150.0000	0.0000	150.0000	
4310525	LESPADIZA / LB	LB		600.0000	-600.0000	
4310528	KOBE-KOREAN MIX 50#	LB	350.0000	0.0000	350.0000	
4310566	POTOMAC ORCHARD 50#	LB	1,300.0000	400.0000	900.0000	
4310592	RED TOP GRASS 50#	LB		0.0000	0.0000	
4310644	CLIMAX TIMOTHY 50#	LB	100.0000	0.0000	100.0000	
4310905	HORSE PASTURE G 50#	LB	1,750.0000	0.0000	1,750.0000	
4310991	MCCORMICK DIV E 50#	EA	-6.0000	0.0000	-6.0000	
4311005	ANNUAL RYE/GRAS 50#	LB	3,900.0000	400.0000	3,500.0000	
4311031	PERENNIAL RYE/G 50#	LB	100.0000	200.0000	-100.0000	
4311067	SISSON DIV EXT	EA		3.0000	-3.0000	
4312013	CLOVER SEED	LB	100.0000	0.0000	100.0000	
4312076	PEARL MILLET 50#	LB	5,000.0000	0.0000	5,000.0000	
4312092	ANNUAL RYE/GRAS 50#	LB		0.0000	0.0000	
4312116	SERICEA HULLED LE 50#	LB	1,000.0000	0.0000	1,000.0000	
4312145	COVER CROP RYE	EA	16.0000	0.0000	16.0000	
4312320	EVERGREEN EXTRA	LB	3,500.0000	0.0000	3,500.0000	
4313134	OATS 1.5 BU/EA	EA		1.0000	-1.0000	
4313222	KY 31 - 9785 F	LB	2,350.0000	0.0000	2,350.0000	
4313433	WILDLIFE SEED 25#	EA	-10.0000	0.0000	-10.0000	
4313434	WILDLIFE SPRING 50#	EA	25.0000	0.0000	25.0000	
4313470	WEEPING LOVE	LB	350.0000	400.0000	-50.0000	
4313564	MCCORMICK TR M/B	EA		40.0000	-40.0000	
4313627	PRICE BARLEY 48#	EA	1.0000	0.0000	1.0000	

ID	Product Name	UOM	Qty On-Hand	Qty Com...d	Qty Available	Physical Cou
4313734	GERMAN FOXTAIL MILLET 50#	EA	10.0000	0.0000	10.0000	
5404330	14.8-14.8-14.8 10.33 S	LB	70,480.0000	0.0000	70,480.0000	
5415446	14.8-14.9-14.8 10.3 S	LB	-180.0000	0.0000	-180.0000	
5420648	15-30-15	LB	50,000.0000	0.0000	50,000.0000	
5434923	9.8-14.7-29.3 4.6 S	LB	93,820.0000	0.0000	93,820.0000	
5509486	24-0-0 3.33 S	LB	-32,300.0000	-6,980.0000	-25,320.0000	
5509492	27.9-0-0 3 S	LB	-44,040.0000	0.0000	-44,040.0000	
5514824	0-0-12	LB		20,060.0000	-20,060.0000	
5519388	8-8-8 1.5 S	LB	-38,800.0000	-38,800.0000	0.0000	
5519389	24-0-0 2.7 S	LB		-44,000.0000	44,000.0000	
6310264	0-0-62 MUR/POT WATER SOL	LB	800,319.6400	44,775.0000	755,544.6400	
6400789	BORIC ACID	LB	5,000.0000	0.0000	5,000.0000	
6401074	5-10-10 1.3S 50#	LB	5,200.0000	0.0000	5,200.0000	
6401083	5-10-10 50#	LB	-200.0000	0.0000	-200.0000	
6401749	10-10-10 50#	LB	17,150.0000	0.0000	17,150.0000	
6401757	BONANZA 10-10-10 50#	LB	33,800.0000	0.0000	33,800.0000	
6401796	10-20-20 50#	LB	-6,000.0000	0.0000	-6,000.0000	
6404624	RC BLEND 15-30-15 50#	LB	200.0000	0.0000	200.0000	
6404704	16-4-8 25%SREL 40#	LB	3,960.0000	0.0000	3,960.0000	
6405023	POT-NIT PRIL 13.5-0-45 50#	LB	800.0000	0.0000	800.0000	
6406954	19-19-19 50#	LB	34,600.0000	150.0000	34,450.0000	
6417701	CALCIUM NITRATE 50#	LB	4,000.0000	0.0000	4,000.0000	
6481360	SOLUBOR 20.5% PWD 50#	LB	3,500.0000	0.0000	3,500.0000	
6499102	10-20-20 2.5/S PREM 50#	LB	18,600.0000	0.0000	18,600.0000	
6524393	DOLOMITE PELLETIZED 40#	LB	67,600.0000	240.0000	67,360.0000	
6551490	HYDRATED LIME 50#	LB	3,850.0000	0.0000	3,850.0000	
6554200	LIMESTONE 50#	LB	5,600.0000	0.0000	5,600.0000	
6554202	LIMESTONE HI-MAG BULK	LB	195,000.0000	0.0000	195,000.0000	

ID	Product Name	UOM	Qty On-Hand	Qty Committed	Qty Available	Physical Count
5554601	LIMESTONE CAL BULK	LB	544,720.0000	0.0000	544,720.0000	
7000006	PHOS ACID (AMBER) 00-54-00	LB	167,122.3600	13,379.0000	153,743.3600	
7048132	11-37-0 BULK	LB	252,174.8000	24,856.0000	227,318.8000	
7050322	12-0-0-26 THIO SUL BULK	LB	46,820.0000	0.0000	46,820.0000	
7057250	16-0-0-20 ZN	LB	30,827.8000	0.0000	30,827.8000	
7085150	30-0-0 (UAN SOL) BULK	LB	546,430.0000	135,785.0000	410,645.0000	
7085842	32-0-0 (N-SOL 32) BULK	LB	-26,013.4000	4,652.0000	-30,665.4000	
7100498	BIOMASTER	GA	15.0000	0.0000	15.0000	
7100593	T-GOLD 08-00-00 10S LB	LB	303,654.9200	88,351.0000	215,303.9200	
7102925	24.2-0-0 BULK AQUA AMMONIA	LB	132,667.6000	18,021.0000	114,646.6000	
7116950	COPPER 7.5% (ADMIRAL) 2.5 GA	PT	12.5000	0.0000	12.5000	
7128200	FOLICAL 2.5 GA	GA	35.0000	0.0000	35.0000	
7151826	N-BORON 2.5 GA	GA	10.0000	0.0000	10.0000	
7602970	24D BUTYRAC 175 1 GA	GA	1.0000	0.0000	1.0000	
7603100	24D B AM BUTYRAC 200 ALB	GA	20.0000	0.0000	20.0000	
7607000	ACCENT 10 OZ	OZ	140.0000	0.0000	140.0000	
7607503	ALLY XP 8 OZ	OZ	21.0000	0.0000	21.0000	
7612400	ASSURE II 1 GA	GA	1.0000	0.0000	1.0000	
7612670	ATRAZINE 4L MAKHTESHIM 2.5	GA		0.0000	0.0000	
7613001	ATRAZINE 4L DREXEL 2.5 GA	GA	30.0000	0.0000	30.0000	
7615610	BANVEL 2.5 GA MICRO-FLO	GA	29.1200	0.0000	29.1200	
7616502	BASAGRAN 2 1/2G	GA	2.5000	0.0000	2.5000	
7616621	BASIS 75 DF 8X10 OZ	OZ	44.3100	0.0000	44.3100	
7619851	BICEP II MAGNUM 2.5 GA	GA	656.0000	0.0000	656.0000	
7619854	BICEP II MAGNUM BULK FC	GA	1,719.0000	0.0000	1,719.0000	
7623201	BULLET 2.5 GA	GA	5.0000	0.0000	5.0000	
7623630	CANOPY EX 5# BAG/4X80 OZ	OZ	2,525.0000	0.0000	2,525.0000	
7626600	CLASSIC 5 OZ	OZ	7.0000	0.0000	7.0000	

AIC	Product Name	UOM	Qty On-Hand	Qty Con ed	Qty Available	Physical Co
7627010	COMMAND 3 ME 2.5 GA	GA	8.0000	0.0000	8.0000	
7628801	CROSSBOW 1G	GA	11.0000	0.0000	11.0000	
7628802	CROSSBOW 2 1/2G	GA	10.0000	0.0000	10.0000	
7634700	DISTINCT 7.5#	LB	2.5000	0.0000	2.5000	
7637531	DUAL MAGNUM 2.5 GA	GA	20.0000	0.0000	20.0000	
7644440	GOAL 2XL-DOW AGRO 2.5 GA	GA	2.5000	0.0000	2.5000	
7644620	GRAMOXONE INTEON 2.5 GA	GA	122.5000	0.0000	122.5000	
7644623	GRAMOXONE INTEON 120 GA	GA	27.0000	0.0000	27.0000	
7645070	HARMONY EXTRA XP 20 OZ	OZ	217.5000	146.4000	71.1000	
7653500	LIBERTY BAYER 2.5 GA	GA	2.5000	0.0000	2.5000	
7659301	FIELDMASTER BULK	GA		0.0000	0.0000	
7662370	OSPREY 95 OZ	OZ	-85.0000	0.0000	-85.0000	
7663400	PERMIT 5X2.67 OZ	OZ	13.2500	0.0000	13.2500	
7663800	PLEDGE 2.5 GA	GA	2.0000	0.0000	2.0000	
7664060	POAST 2.5 GA (MICRO FLO)	GA	17.5000	0.0000	17.5000	
7664080	POAST PLUS 2.5 GAL (MICRO	GA	12.5000	0.0000	12.5000	
7664241	PRAMITOL 25E MAKHTESHIM 1	GA	4.0000	0.0000	4.0000	
7664531	PRAMITOL 5PS MAKHTESHIM	LB	875.0000	0.0000	875.0000	
7664800	PREFAR 4E 2.5 GA	GA	25.0000	0.0000	25.0000	
7667461	PROWL H2O 2.5 GA	GA	10.0000	0.0000	10.0000	
7668603	PYTHON WDG 4X2.5 LB/OZ	OZ	770.0000	0.0000	770.0000	
7669133	RAPTOR 1 GA/OZ CPS	OZ	1.8500	0.0000	1.8500	
7670200	RONEET 6E ZENECA 2.5 GA	GA	12.5000	0.0000	12.5000	
7671190	ROUNDUP ORIGINAL MAX BULK	GA	1,552.5000	0.0000	1,552.5000	
7671192	ROUNDUP ORIGINAL MAX 2.5 GA	GA	127.0000	0.0000	127.0000	
7673200	SIMAZINE 4L - DREXEL 2.5 GA	GA	505.0000	0.0000	505.0000	
7674400	SINBAR 5#	LB	30.0000	0.0000	30.0000	
7675910	SONALAN HFP 2.5 GA	GA	20.0000	0.0000	20.0000	

ID	Product Name	UOM	Qty On-Hand	Qty Com...d	Qty Available	Physical Cou
7677820	STORM 2.5 GA	GA	17.5000	0.0000	17.5000	
7678302	SURFLAN AS AG 2.5GA NO CALIF	GA	7.5000	0.0000	7.5000	
7683740	TRIFLURALIN 4EC 2.5	GA	11.0000	0.0000	11.0000	
7687810	ULTRA BLAZER 2.5 GA UPI	GA	47.5000	0.0000	47.5000	
7691810	WEEDONE LV 4EC 2.5 GA	GA	388.7500	18.0000	370.7500	
7700080	DISYSTON 15G DO NOT USE	LB	28.0000	0.0000	28.0000	
7700620	ADMIRE PRO SYS. 140 OZ	OZ	280.0000	0.0000	280.0000	
7700621	ADMIRE PRO SYS. 35 OZ	OZ	140.0000	0.0000	140.0000	
7704131	BAYTHROID XL 1 GA	GA	18.0000	0.0000	18.0000	
7706501	CARBARYL 4L 2.5 GA	GA	30.0000	0.0000	30.0000	
7710392	DAMOIL 2.5 GA	GA	77.5000	0.0000	77.5000	
7720251	DIMETHOATE 2.67 2.5GA	GA	10.0000	0.0000	10.0000	
7722550	DIPEL DF 1#	LB	2.0000	0.0000	2.0000	
7735401	IMIDAN 70 WP 4#	LB	360.0000	0.0000	360.0000	
7740501	LANNATE SP 2#	LB	10.0000	0.0000	10.0000	
7741090	LATITUDE 1.5 CAN/EA	EA	53.0000	0.0000	53.0000	
7742931	LORSBAN 4E 2.5 GA	GA	-5.0000	0.0000	-5.0000	
7748060	MALATHION 57 EC CLEAN CRP	GA	7.0000	0.0000	7.0000	
7766450	PERM-UP 3.2 EC 1 GA	GA	2.0000	1.0600	0.9400	
7778840	SEVIN 80S 10#	LB	70.0000	0.0000	70.0000	
7781050	SPINTOR 2SC 1 GA	GA	3.0000	0.0000	3.0000	
7781290	STEWARD 1 GA	GA	5.0000	0.0000	5.0000	
7786600	THIONEX 3EC 2.5 GA	GA	7.5000	0.0000	7.5000	
7790452	VYDATE L 2.5 GA	GA	1.5000	0.0000	1.5000	
7800500	ABOUND FL 1 GA SYNGENTA	GA	1.0000	0.0000	1.0000	
7813000	BRAVO WEATHER STIK 2.5 GA	GA	36.0000	0.0000	36.0000	
7818230	CAPTAN 50W 5# DREXEL	LB	30.0000	0.0000	30.0000	
7838630	ELEVATE 50 WDG 2#	LB	6.0000	0.0000	6.0000	

	Product Name	UOM	Qty On-Hand	Qty Committed	Qty Available	Physical Co
7838670	ELITE 45 DF 2# NO CA	LB	4.0000	0.0000	4.0000	
7839251	FERBAM GRANUFLO 44#	LB	44.0000	0.0000	44.0000	
7842200	HEADLINE 2.5 GA NON CALIF	GA	20.0000	0.0000	20.0000	
7844661	KOCIDE 3000 4X10#	LB	150.0000	0.0000	150.0000	
7852332	MANZATE PRO-STICK 6 LB	LB	96.0000	0.0000	96.0000	
7859650	QUADRIS FL 1 GA	GA	8.0000	0.0000	8.0000	
7860011	RALLY 40WSP 12X5X4 OZ/OZ	OZ	240.0000	0.0000	240.0000	
7861751	RIDOMIL GOLD EC 1 GA	GA	4.0000	0.0000	4.0000	
7870040	SULFUR 90W MICRO 30#	LB	30.0000	0.0000	30.0000	
7877611	TANOS DF 7.5 LB	LB	30.0000	0.0000	30.0000	
7884990	TOPSIN M WSB 5X1# EPA	LB	25.0000	0.0000	25.0000	
7104704	AGRI-MYCIN 17 2# NO CA	LB		0.0000	0.0000	
7200075	MIX-ALL 1 GA DREXEL	GA	20.0000	0.0000	20.0000	
7200101	FOAM FIGHTER 1 QT	QT	28.0000	0.0000	28.0000	
7201164	AMAZE GOLD II 2.5 GA	GA	30.0000	0.0000	30.0000	
7213064	DAZZLE TANK CLEANER 1 QT	QT	43.0000	0.0000	43.0000	
7233095	INFUSE R/C 1 GA	GA	18.0000	0.0000	18.0000	
7233110	INOCULANT SOYBEAN 5 BU EMD	EA	153.0000	0.0000	153.0000	
7272026	SCANNER 2.5 GA/PTS CPS	PT	9,216.0000	272.5000	8,943.5000	
7272066	SWATH MARKER 1 GA	GA	139.0000	0.0000	139.0000	
7272084	SPARK CROP OIL CONC. 2.5 GA	GA	122.5000	0.0000	122.5000	
7339818	SUNFLOWER SEED 50#	EA	2.0000	0.0000	2.0000	
7393722	MISC. CASTROL	EA	96.0000	0.0000	96.0000	

Report Parameters

Product Name Range:	(none entered)	**Product Filter:**	(none entered)
Product ID Range:	3000000 to 8999999	**Only CDMS Products:**	No
Location:	SEALSTON, VA (325)	**Only Active Products:**	Yes
Data Source:	Local		

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3821
www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

December 28, 2012

Mr. J. Billy Pirkle
Managing Director
Crop Production Services Inc.
6 Executive Drive
Collinsville, IL 62234

Re: Crop Production Services - Sealston, Permit #VA0088374

Dear Mr. Pirkle;

Attached is a copy of the Inspection Report generated from the Facility Technical Inspection conducted at Crop Production Services- Sealston on November 29, 2012. This letter is not intended as a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.* (APA).

Please review the enclosed report and submit in writing adequate documentation of all measures taken (including all necessary supporting documentation) to address the Request for Corrective Action no later than **January 28, 2012**.

Your response may be sent either via the US Postal Service or electronically, via E-mail. If you choose to send your response electronically, we recommend sending it as an Acrobat PDF or in a Word-compatible, write-protected format. Additional inspections may be conducted to confirm that the facility is in compliance with permit requirements.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Regional Office at (703) 583-3882 or by e-mail at Sharon.Allen@deq.virginia.gov.

Sincerely,

Sharon Allen

Sharon Allen
Environmental Specialist II

Electronic copy sent:

Permits / DMR File, Compliance Manager– DEQ
Marvin Martz – Regional Director, Crop Production Services, Inc.
Nancy Vincek – Manager, Operations Compliance, Crop Production Services, Inc.
Duke McBroom – Facility Manager, Crop Production Services - Sealston

DEQ
WASTEWATER FACILITY INSPECTION REPORT
PREFACE

VPDES/State Certification No.	(RE) Issuance Date	Amendment Date	Expiration Date
VA0088374	**June 25, 2008**		**June 24, 2013**

Facility Name	Address	Telephone Number
Crop Production Services Sealston, VA # 325	**2453 Birchwood Creek Road Sealston, VA 22547**	**(540) 775-2985**
Owner Name	Address	Telephone Number
Crop Production Services, Inc.	**P.O. Box 97 Sealston, VA 22547**	**(800) 767-2855 (x448)**
Responsible Official	Title	Telephone Number
J. Billy Pirkle	**Sr. Director, EHS**	**(800) 767-2855 (x448)**
Responsible Operator	Operator Cert. Class/number	Telephone Number
Duke McBroom	**XXXX**	**(540) 775-2985**

TYPE OF FACILITY:

DOMESTIC				**INDUSTRIAL**			
Federal		Major		Major		Primary	
Non-federal		Minor		Minor	**X**	Secondary	**X**

STORMWATER LIMITS **Outfall 003**:

Parameter	Min.	Avg.	Max.	Parameter	Min.	Avg.	Max.
Once/ 6 months							
Flow			**NL**	**pH s.u.**	**6.0**		**9.0**
Ammonia-N		**NA**	**NL**	**NO_3**		**NA**	**NL**
TN		**NA**	**NL**	**TP**		**NA**	**NL**
Once/year							
TSS		**NA**	**NL**	**COD**		**NA**	**NL**
TPH		**NA**	**NL**	**Dissolved Copper µg/L**		**NA**	**NL**

Receiving Stream	**UT to Birchwood Run**
Basin	**Rappahannock River**
Discharge Point (LONG)	**77° 18' 22.65"**
Discharge Point (LAT)	**38° 16' 00.29"**

STORMWATER LIMITS: **Outfalls 002 and 004**							
Parameter	Min.	Avg.	Max.	Parameter	Min.	Avg.	Max.
Once/ 6 months		**NL**	**NL**				
Flow				**pH s.u.**	**6.0**		**9.0**
Once/year							
TSS		**NA**	**NL**	**COD**		**NA**	**NL**
TPH		**NA**	**NL**				

Receiving Stream	**UT to Birchwood Run**
Basin	**Rappahannock River**
	002
Discharge Point (LONG)	**77° 18' 19.16'**
Discharge Point (LAT)	**38° 15' 59.87**
	004
Discharge Point (LONG)	**77° 18' 18.46**
Discharge Point (LAT)	**38° 16' 05.56**

VPDES NO. **VA0088374**

PROBLEMS IDENTIFIED AT THE LAST INSPECTION: **November 14, 2006**	Corrected	Not Corrected
Recommendations for action:		
1. Please check all drainage channels to ensure optimal drainage and minimize insect breeding habitat.	[X]	[ ]

INSPECTION SUMMARY: November 2012

- **Overall the facility was neat and well maintained.**
- **Mr. Steve Gray, who generally conducts inspections and collects stormwater samples for this permit, was out of the office on medical leave. A trip will be made to this facility to review sample collection and pH analysis once he returns to work.**

Request for Corrective Action

- **The liquid fertilizer tanks have secondary containment. The bottoms of the concrete pads show wear and damage; these should be repaired or replaced.**
- **Reports and records kept for compliance with this permit must be kept with the SWPPP. If kept in a separate binder, all office staff should be aware of its location for easy reference.**
- **The certification statement in the Stormwater Pollution Prevention Plan (SWPPP) must be signed and dated.**
- **Quarterly visual inspections - one inspection from June 2012 for each outfall was dated June and noted as "No Rain". If there is not a qualifying rain event in a particular quarter, the quarter should be identified as the entire 3 month period (i.e. April 1-June 30, 12XX) with the notation "No Qualifying Rain Event". Please note that "No Qualifying Rain Event" cannot be claimed until the end of any particular quarter. For instance, the visual inspection for the second quarter of a year cannot be noted as "No Qualifying Rain Event" on April 14th because there is still plenty of opportunity for rain in that quarter.**
- **The date and time the rain event starts must be recorded on the inspection form in order to document compliance with "Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging."**

Recommendations

- **Certificates of Analysis (CoA) reports from contracted laboratories should be carefully reviewed. When a CoA reports contain qualifiers (flags) indentifying samples or sample results out of compliance with the laboratory's SOP, these flags must be noted on the Discharge or Groundwater Monitoring reports submitted to DEQ.**

DEPARTMENT OF ENVIRONMENTAL QUALITY
STORMWATER GENERAL FACILITY
INSPECTION REPORT

Inspection date:	**November 29, 2012**	Date form completed:	**December 27, 2012**
Inspection by:	**Sharon Allen**	Inspection agency:	**DEQ/NRO**
Total Time spent: (including prep & travel)	**25 hours**		
Reviewed by: Earl L. Stafford **12/27/12**			
Present at inspection:	**Duke McBroom - Sales/Facility Manager** **Alison Thompson, Joe Garner - DEQ NRO**		

TYPE OF INSPECTION:

Routine	**X**	Reinspection		Compliance/assistance/complaint	
Date of previous inspection:	**November 14, 2006**	Agency:	**DEQ/NRO**		
	Other:				

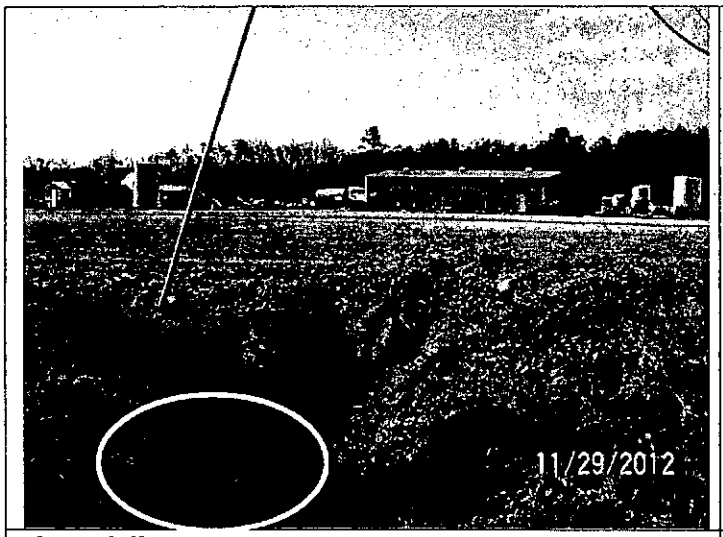
Storm Water P3 available and up dated?	YES	**X**	NO	
Outfalls Identified in SWP3?	YES	**X**	NO	
Site Map with Drainage and Flows available?	YES	**X**	NO	
Has there been any new construction?	YES		NO	**X**
If yes, were the plans and specifications approved? **NA**	YES		NO	
If yes, was SWP3 plan amended? **NA**	YES		NO	
Quarterly Visual Results available with SWP3?	YES	**X**	NO	
Site Inspections performed and documented?	YES	**X**	NO	
Training performed and documented?	YES	**X**	NO	
Comprehensive Site Evaluation and associated documents available?	YES	**X**	NO	
Non-stormwater certification?	YES	**X**	NO	
Oil or other Hazardous Spills?	YES	**X**	NO	
Sampling Required and performed correctly, records available?	YES	**X**	NO	

OVERALL APPEARANCE OF FACILITY	GOOD	**X**	AVERAGE		POOR	

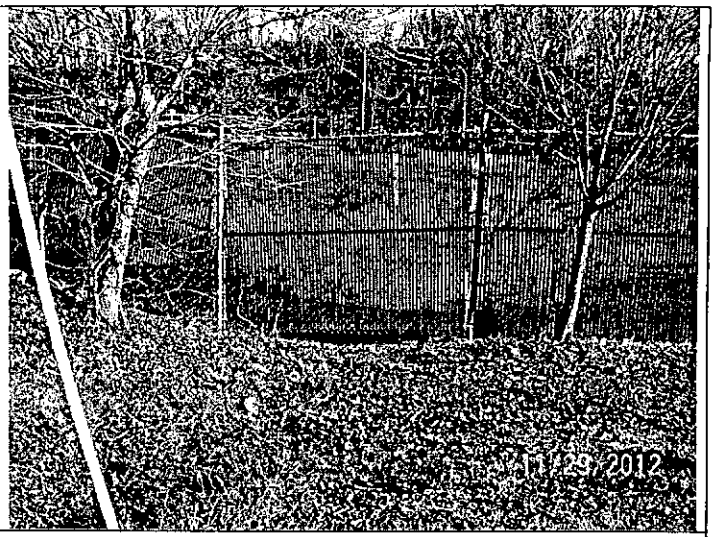
		YES	NO
	Additional Stormwater Pollution Prevention Plan Requirements:		
	Summary of Potential Pollutant Sources	X	
	Good Housekeeping.	X	
	Preventive Maintenance.	X	
	Spill Prevention and Response Procedures.	X	
	Record Keeping and Internal Reporting Procedures	X	
	Sediment and Erosion Control.	X	
	Management of Runoff.	X	
	Non-storm Water Discharges	X	

SUMMARY	
INSPECTION COMMENTS:	
	We toured the facility with Mr. McBroom. Photos by S. Allen.
	Outfall 004 **Much of area is grassy - Mr. McBroom said they often have trouble – doesn't rain enough to collect water from here for samples. Have also planted grass and pampas grass "filter strips" to slow water down and assist with infiltration and nutrient uptake.**
	Outfall 002 **East side of property near railroad track at east end of potash building. There is an underground Auger to unload pot ash arriving by rail - Mr. McBroom said most arrives by truck these days. Dry Fertilizer is unloaded and loaded to trucks in front of the potash building; the staff puts tarps down on ground between the trucks and building and under the conveyor belts to catch spillage. Mr. McBroom would like to see the area recessed to act as a containment area and prevent run-off from area to Outfall 002.**
	Outfall 003 **This outfall mainly receives overflow from the storm water pond and discharges to a culvert under the railroad tracks outside the facility fence. The pond receives any surface flow from the western/central part of property. Water in the pond is also used for mixing liquid fertilizer as it is needed.**
	Mr. McBroom pointed out the grass and filter strips (planted with pampas grass) they have installed to assist with stormwater infiltration and nutrient uptake. Mr. McBroom also pointed out a strip of trees planted along the eastern boundary for phyto-remediation as per the facility's Corrective Action Plan (CAP).
	There were three large free standing tanks (double hulled) that use to contain anhydrous ammonia; Mr. McBroom said they now just hold water. Staff should make sure tanks are properly labeled.
	Staff had bottles and paperwork prepared for collection of Attachment A samples for the permit reissuance; just hoping for rainfall sufficient to produce a discharge from the outfalls.
	The facility has 28 monitoring/recovery wells for groundwater monitoring. Not all in use; several are no longer on the property due to sections being sold and to property lines changing.
	Groundwater monitoring results show cause for continuing concern. The Crop Production, Inc. staff and their consultant continue to work with DEQ Water Permitting and Remediation staff to remediate the site's ground water contamination.
	Water recovered from the aquifer table via MW26 (the shallow groundwater recovery system) and water recovered from surface infiltration that collects in a wet storage area via a French drain (recovery trench) system is piped to holding tanks and used as make-up water in fertilizer production.

	REQUEST for CORECTIVE ACTION
	The liquid fertilizer tanks have secondary containment. The bottoms of the concrete pads show wear and damage; these should be repaired or replaced.
	The certification statement in the Stormwater Pollution Prevention Plan (SWPPP) must be signed and dated.
	Quarterly visual inspections - one inspection from June 2012 for each outfall was dated June and noted as "No Rain". If there is not a qualifying rain event in a particular quarter, the quarter should be identified as the entire 3 month period (i.e. April 1-June 30, 12XX) with the notation "No Qualifying Rain Event". Please note that "No Qualifying Rain Event" cannot be claimed until the end of any particular quarter. For instance, the visual inspection for the second quarter of a year cannot be noted as "No Qualifying Rain Event" on April 14th because there is still plenty of opportunity for rain in that quarter.
	The date and time the rain event starts must be recorded on the inspection form in order to document compliance with "Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging."



1) Outfall 004.



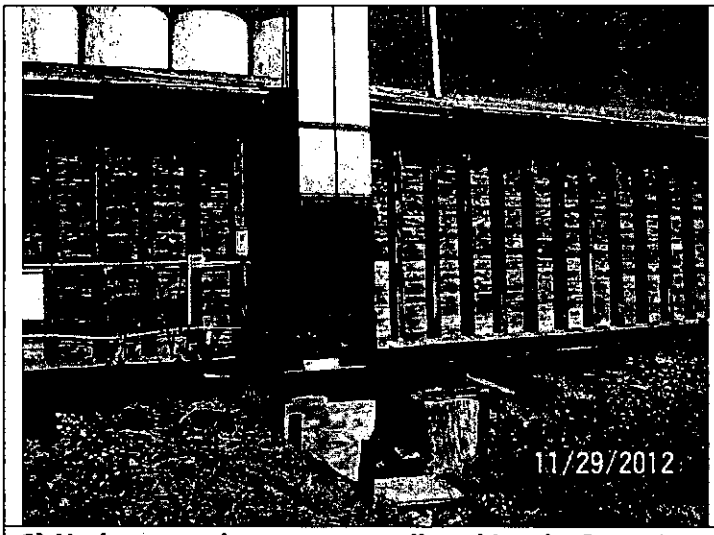
2) Discharge path for Outfall 004.

3) Area draining to Outfall 002 outside potash building.

4) Loading/loading area for dry fertilizer. Area draining to Outfall 002.

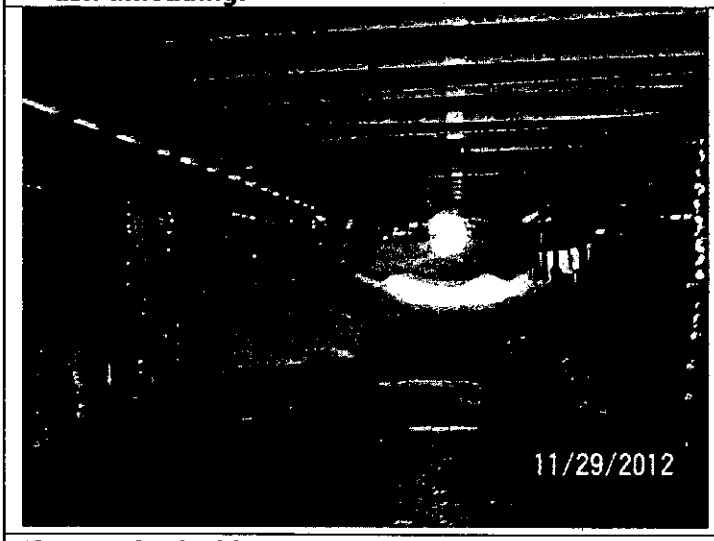
5) Outfall 002.

Facility name: Crop Production Services - Sealston
VPDES Permit No. VA0088374
Site Inspection Date: November 29, 2012
Photos & Layout by: S. Allen

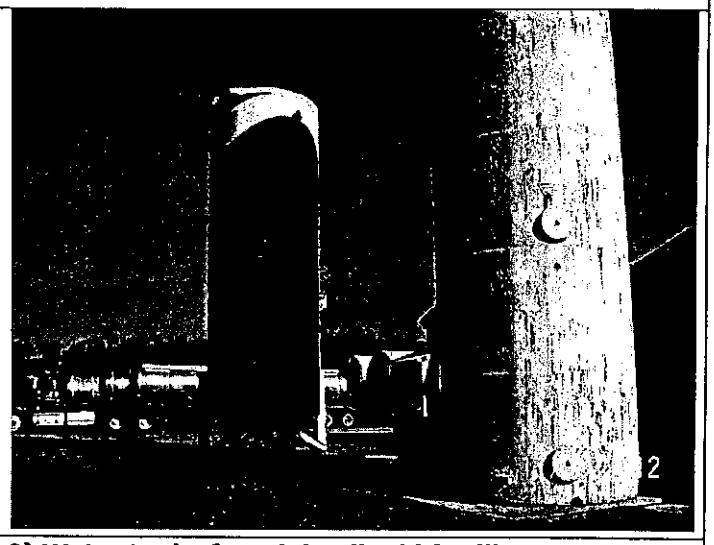


6) Underground auger near railroad tracks for pot ash unloading.

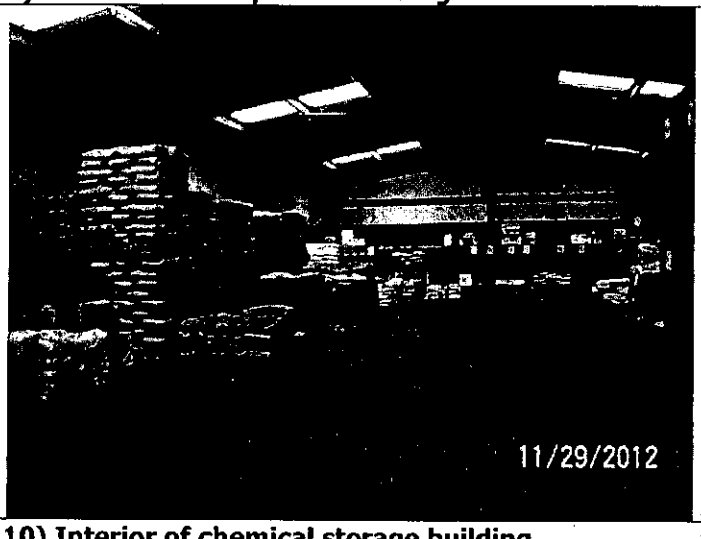
7) Dry fertilizer inside potash building.



8) Pot ash - inside potash building

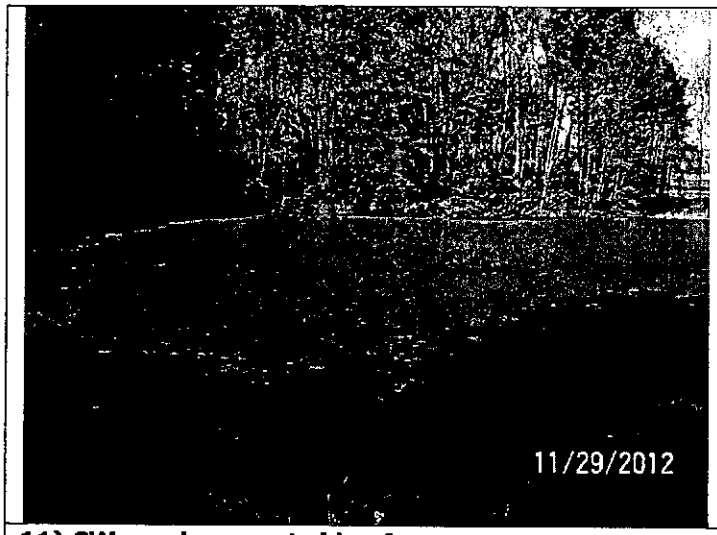


9) Water tanks for mixing liquid fertilizer

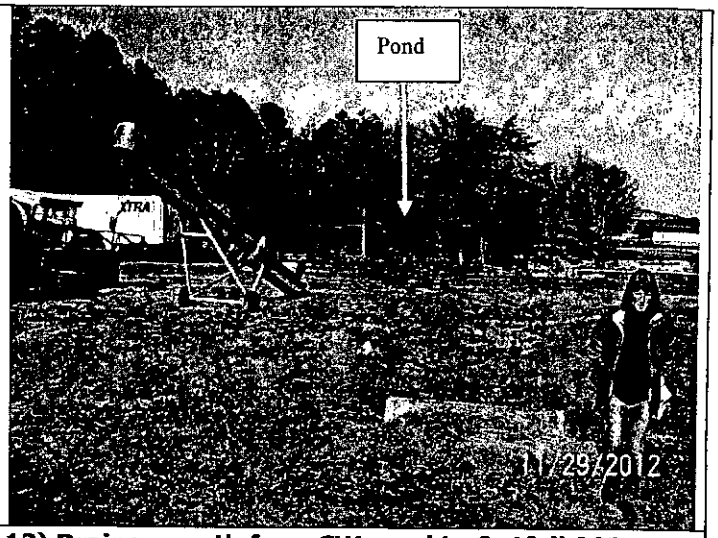


10) Interior of chemical storage building.

Facility name: Crop Production Services- Sealston
VPDES Permit No. VA0088374
Site Inspection Date: November 29, 2012
Photos & Layout by: S. Allen

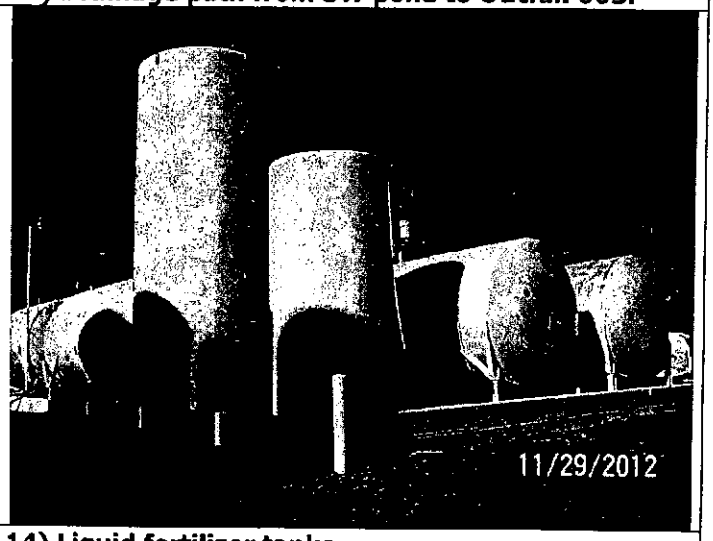


11) SW pond on west side of property.



12) Drainage path from SW pond to Outfall 003.

13) Discharge site of Outfall 003.



14) Liquid fertilizer tanks.

Facility name: Crop Production Services- Sealston
Site Inspection Date: November 29, 2012

VPDES Permit No. VA0088374
Photos & Layout by: S. Allen

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
LABORATORY INSPECTION REPORT
10/01

FACILITY NO:	INSPECTION DATE:	PREVIOUS INSP. DATE:	PREVIOUS EVALUATION:	TIME SPENT:
VA0088374	November 29, 2012	November 14, 2006	Deficiencies	2 hours

NAME/ADDRESS OF FACILITY:	FACILITY CLASS:	FACILITY TYPE:	UNANNOUNCED INSPECTION?
Crop Production Services Sealston, # 325 2453 Birchwood Creek Road Sealston, VA 22547	( ) MAJOR (X) MINOR ( ) SMALL ( ) VPA/NDC	( ) MUNICIPAL (X) INDUSTRIAL ( ) FEDERAL ( ) COMMERCIAL LAB	(X) YES ( ) NO **FY-SCHEDULED INSPECTION?** (X) YES ( ) NO

INSPECTOR(S):	REVIEWERS:	PRESENT AT INSPECTION:
S. Allen	Earl L. Stafford	Alison Thompson, Joe Garner - DEQ Duke McBroom - Crop Production

LABORATORY EVALUATION	DEFICIENCIES? Yes	No
LABORATORY RECORDS		X

QUALITY ASSURANCE/QUALITY CONTROL

Y/N	QUALITY ASSURANCE METHOD	PARAMETERS	FREQUENCY
NA	REPLICATE SAMPLES		
NA	SPIKED SAMPLES		
Y	STANDARD SAMPLES	pH	Each analysis
NA	SPLIT SAMPLES		
NA	SAMPLE BLANKS		
NA	OTHER		

COPIES TO: (X) DEQ - RO; ( ) OWPS; ( ) VDH- FO and DWE; (X) OWNER; ( ) EPA-Region III; ( ) Other:

FACILITY #: VA0088374

LABORATORY RECORDS SECTION

LABORATORY RECORDS INCLUDE THE FOLLOWING:

X	SAMPLING DATE	X	ANALYSIS DATE		CONT MONITORING CHART
X	SAMPLING TIME	X	ANALYSIS TIME		INSTRUMENT CALIBRATION
X	SAMPLE LOCATION	X	TEST METHOD		INSTRUMENT MAINTENANCE
				X	CERTIFICATE OF ANALYSIS

WRITTEN INSTRUCTIONS INCLUDE THE FOLLOWING:

X	SAMPLING SCHEDULES		CALCULATIONS		ANALYSIS PROCEDURES

	YES	NO	N/A
DO ALL ANALYSTS INITIAL THEIR WORK?	X		
DO BENCH SHEETS INCLUDE ALL INFORMATION NECESSARY TO DETERMINE RESULTS?	X		
IS THE DMR COMPLETE AND CORRECT? MONTH(S) REVIEWED: **January-June 2011, July-December 2011, January – June 2012.** **DMRs and Groundwater Monitoring Results submitted once every six months and/or annually.**			
ARE ALL MONITORING VALUES REQUIRED BY THE PERMIT REPORTED?	X		

GENERAL SAMPLING AND ANALYSIS SECTION

	YES	NO	N/A
ARE SAMPLE LOCATION(S) ACCORDING TO PERMIT REQUIREMENTS?	X		
ARE SAMPLE COLLECTION PROCEDURES APPROPRIATE? **To be reviewed in 2013**			
IS SAMPLE EQUIPMENT CONDITION ADEQUATE? **To be reviewed in 2013**			
IS FLOW MEASUREMENT ACCORDING TO PERMIT REQUIREMENTS?	X		
ARE COMPOSITE SAMPLES REPRESENTATIVE OF FLOW?			X
ARE SAMPLE HOLDING TIMES AND PRESERVATION ADEQUATE? **To be reviewed in 2013**			
IF ANALYSIS IS PERFORMED AT ANOTHER LOCATION, ARE SHIPPING PROCEDURES ADEQUATE? LIST PARAMETERS AND NAME & ADDRESS OF LAB: **SW samples - Universal labs** **Samples collected by Steve Gray (Crop Production Services- Sealston) and sent to Test America - Savannah for analysis** **5102 LaRoche Ave** **Savannah, GA 31404** **GW samples are collected by ATC Associates (now Cardno ATC) staff and sent to Test America - Savannah**	X		

LABORATORY EQUIPMENT SECTION			
	YES	**NO**	**N/A**
ARE ANNUAL THERMOMETER CALIBRATION(S) ADEQUATE? **To be reviewed in 2013**			

DEPARTMENT OF ENVIRONMENTAL QUALITY – WATER DIVISION
LABORATORY INSPECTION REPORT SUMMARY

FACILITY NAME:	**Crop Production - Sealston**	Permit #:	**VA0088374**	INSPECTION DATE:	**November 29, 2012**
LABORATORY EVALUATION		**X**	No Deficiencies		
			Deficiency ***[REQUEST for CORRECTIVE ACTION]***		

LABORATORY RECORDS

- **Laboratory records only were evaluated during this inspection. The person responsible for and most familiar with stormwater monitoring was out on medical leave, won't be back until the new year. A follow up inspection will be conducted to evaluate the pH analysis and equipment.**

- **The Test America Certificate of Analysis /Analytical report for samples collected 9/6/2011 for outfalls 002, 003, 004 and received in lab on 9/8/11 stated in the job narrative that the sample for Outfall 003 was received outside the holding time for method 353.2 – Nitrite-N and Nitrate-N. Nitrite-N is not included as a parameter for this permit, although Nitrate-N and Total Nitrogen are. Sample collected 9/6/12 at 1030, received 9/8/12 at 1003; NO2 and NO3 were analyzed 9/8/12 at 1535.**

  Please note that flags such as this must be noted on the DMR

To:	Alison Thompson
From:	Katie Conaway
Date:	March 22, 2013
Subject:	Permit Planning Statement for Crop Production Services
Permit Number:	VA0088374

Information for Outfalls:

Discharge Type: Industrial Stormwater
Discharge Flow: Varies based on rainfall

Outfall 002

Receiving Stream:	Birchwood Run, UT
Latitude / Longitude:	38° 15' 59.93" 77° 18' 18.48"
Rivermile:	000.22
Streamcode:	3-XEG
Waterbody:	VAN-E21R
Water Quality Standards:	Class III, Section 4
Drainage Area:	< 0.01 mi^2

Outfall 003

Receiving Stream:	Birchwood Run, UT
Latitude / Longitude:	38° 16' 0.12" 77° 18' 22.44"
Rivermile:	000.28
Streamcode:	3-XEG
Waterbody:	VAN-E21R
Water Quality Standards:	Class III, Section 4
Drainage Area:	< 0.01 mi^2

Outfall 004

Receiving Stream:	Birchwood Run, UT
Latitude / Longitude:	38° 16' 05.63" 77° 18' 18.32"
Rivermile:	000.32
Streamcode:	3-XIC
Waterbody:	VAN-E21R
Water Quality Standards:	Class III, Section 4
Drainage Area:	< 0.01 mi^2

1. Please provide water quality monitoring information for the receiving stream segment. If there is not monitoring information for the receiving stream segment, please provide information on the nearest downstream monitoring station, including how far downstream the monitoring station is from the outfall.

   This facility discharges into several unnamed tributaries to Birchwood Run. There are no DEQ water quality monitoring station on any of the unnamed tributaries to Birchwood Run, or on Birchwood Run. The nearest downstream DEQ monitoring station is located on the tidal freshwater portion of the Rappahannock River. Station 3-RPP091.55 is located approximately 6.15 rivermiles downstream from

outfall 002; 6.21 rivermiles downstream from Outfall 003; and 4.89 rivermiles downstream from outfall 004. The following is the water quality summary for the tidal, freshwater Rappahannock River at Station 3-RPP091.55, as taken from the Draft 2012 Integrated Assessment*:

Class II, Section 1, special stds. a.

DEQ Chesapeake Bay and ambient stations 3-RPP088.22, located near the confluence with Jones Top Creek; 3-RPP091.55 at Buoy 89; and 3-RPP095.56, located approximately 500 yards upstream from the Four Winds Campground boat ramp. Fish consumption use assessed using DEQ fish tissue/sediment station 3-RPP080.19, located in a downstream segment.

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory and sufficient excursions above the fish tissue value (TV) for PCBs in fish tissue. Additionally, excursions above the risk-based tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue was recorded in one specie of fish (1 total samples) collected in 2006 at monitoring station 3-RPP080.19 (channel catfish), noted by an observed effect.

The wildlife, recreation and aquatic life uses are considered fully supporting. The Chesapeake Bay TMDL was completed in 2010. The shellfishing use was not assessed.

The aquatic life use is listed as Category 3B because sufficient data are not available to show that all aquatic life sub-uses are being met.

* Virginia's Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently awaiting final approval.

2. Does this facility discharge to a stream segment on the 303(d) list? If yes, please fill out Table A.

No.

3. Are there any downstream 303(d) listed impairments that are relevant to this discharge? If yes, please fill out Table B.

Table B. Information on Downstream 303(d) Impairments and TMDLs

Waterbody Name	Impaired Use	Cause	Distance From Outfalls	TMDL Completed	WLA	Basis for WLA	TMDL Schedule
Impairment Information in the Draft* 2012 Integrated Report							
Rappahannock River	Fish Consumption	PCBS	4.65 miles from 002 4.71 miles from 003 3.39 miles from 004	No	NA	NA	2018

** Virginia's Draft 2012 Integrated Report (IR) has been through the public comment period and reviewed by EPA. The 2012 IR is currently awaiting final approval.*

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

Birchwood Run flows into the tidal, freshwater portion of the Rappahannock River, which is listed with an impairment for PCBs in fish tissue. A PCB TMDL for the tidal, freshwater Rappahannock River is scheduled for development in 2018. While there is a downstream PCB impairment, the planning staff does not feel that it is necessary to have this facility perform PCB monitoring. The SIC code for this facility (2875) is not listed in PCB Guidance Memo 09-2001 as being a facility that is subject to monitoring requirements.

5. Fact Sheet Requirements – Please provide information regarding any drinking water intakes located within a 5 mile radius of the discharge point.

There are no public water supply intakes located within 5 miles of this discharge.

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Crop Production Services Inc Permit No.: VA0088374

Receiving Stream: Birchwood Run Creek, UTs Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO3) =	mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO3) =	100 mg/L
90% Temperature (Annual) =	deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	100 %	90% Temp (Annual) =	25 deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	100 %	90% Temp (Wet season) =	15 deg C
90% Maximum pH =	SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	100 %	90% Maximum pH =	7.45 SU
10% Maximum pH =	SU	30Q10 (Wet season)	0 MGD	- 30Q10 Mix =	100 %	10% Maximum pH =	SU
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD			Discharge Flow =	1.25 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD				
Trout Present Y/N? =	n						
Early Life Stages Present Y/N? =	y						

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+00
Acrylonitrile[C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	3.0E+00	--	na	5.0E-04
Ammonia-N (high) (Yearly)	0	2.14E+01	2.32E+00	na	--	2.14E+01	2.32E+00	na	--	--	--	--	--	--	--	--	--	2.14E+01	2.32E+00	na	--
Ammonia-N (high) (High Flow)	0	2.14E+01	4.41E+00	na	--	2.14E+01	4.41E+00	na	--	--	--	--	--	--	--	--	--	2.14E+01	4.41E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine[C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether[C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+04
Bis 2-Ethylhexyl Phthalate[C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
Cadmium	0	3.9E+00	1.1E+00	na	--	3.9E+00	1.1E+00	na	--	--	--	--	--	--	--	--	--	3.9E+00	1.1E+00	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	5.7E+02	7.4E+01	na	--	5.7E+02	7.4E+01	na	--	--	--	--	--	--	--	--	--	5.7E+02	7.4E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene[C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	1.3E+01	9.0E+00	na	--	1.3E+01	9.0E+00	na	--	--	--	--	--	--	--	--	--	1.3E+01	9.0E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	1.6E+04
DDD[C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE[C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT[C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene[C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane[C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane[C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene[C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin[C]	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene[C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

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(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	7.9E-04
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	3.9E-04
Hexachlorobenzene[C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene[C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	9.5E-01	--	na	1.8E+00
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+03
Hexachloroethane[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone[C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	1.2E+02	1.4E+01	na	--	1.2E+02	1.4E+01	na	--	--	--	--	--	--	--	--	--	1.2E+02	1.4E+01	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+03
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Nickel	0	1.8E+02	2.0E+01	na	4.6E+03	1.8E+02	2.0E+01	na	4.6E+03	--	--	--	--	--	--	--	--	1.8E+02	2.0E+01	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+02
N-Nitrosodimethylamine[C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine[C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine[C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	2.8E+01	6.6E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB Total[C]	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	1.4E-02	na	6.4E-04
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	na	3.0E+01	7.7E-03	5.9E-03	na	3.0E+01	--	--	--	--	--	--	--	--	7.7E-03	5.9E-03	na	3.0E+01
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+05
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
(pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	**na**	**4.2E+03**
Silver	0	3.4E+00	--	na	--	3.4E+00	--	na	--	--	--	--	--	--	--	--	--	**3.4E+00**	--	**na**	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	**na**	--
1,1,2,2-Tetrachloroethane[c]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	--	--	**na**	**4.0E+01**
Tetrachloroethylene[c]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	**na**	**3.3E+01**
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	--	--	**na**	**4.7E-01**
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	--	--	**na**	**6.0E+03**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	**na**	--
Toxaphene [c]	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**7.2E-02**	**na**	--
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	--	--	**na**	**7.0E+01**
1,1,2-Trichloroethane[c]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	--	**na**	**1.6E+02**
Trichloroethylene [c]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	--	--	**na**	**3.0E+02**
2,4,6-Trichlorophenol [c]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	--	**na**	**2.4E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	**na**	--
Vinyl Chloride[c]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	--	**na**	**2.4E+01**
Zinc	0	1.2E+02	1.2E+02	na	2.6E+04	1.2E+02	1.2E+02	na	2.6E+04	--	--	--	--	--	--	--	--	**1.2E+02**	**1.2E+02**	**na**	**2.6E+04**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	6.8E-01
Chromium III	4.4E+01
Chromium VI	6.4E+00
Copper	5.4E+00
Iron	na
Lead	8.1E+00
Manganese	na
Mercury	4.6E-01
Nickel	1.2E+01
Selenium	3.0E+00
Silver	1.4E+00
Zinc	4.7E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

VA0088374 Crop Production Services Inc.

Monitoring Period	Outfall No	pH value (s.u.)	
Jul 1, 2012-Dec 31, 2012	002	7.02	
Jan 1, 2012-Jun 30, 2012	002	NULL	Facility noted that there was no qualifying discharge.
Jul 1, 2011-Dec 31, 2011	002	7.04	
Jan 1, 2011-Jun 30, 2011	002	6.76	
Jul 1, 2010-Dec 31, 2010	002	6.35	
Jan 1, 2010-Jun 30, 2010	002	6.39	
Jul 1, 2009-Dec 31, 2009	002	NULL	Facility failed to sample. Warning Letter issued.
Jan 1, 2009-Jun 30, 2009	002	6.70	
Jul 1, 2008-Dec 31, 2008	002	6.94	
Jul 1, 2012-Dec 31, 2012	003	7.48	
Jan 1, 2012-Jun 30, 2012	003	NULL	Facility noted that there was no qualifying discharge.
Jul 1, 2011-Dec 31, 2011	003	7.14	
Jan 1, 2011-Jun 30, 2011	003	6.7	
Jul 1, 2010-Dec 31, 2010	003	6.96	
Jan 1, 2010-Jun 30, 2010	003	6.74	
Jul 1, 2009-Dec 31, 2009	003	NULL	Facility failed to sample. Warning Letter issued.
Jan 1, 2009-Jun 30, 2009	003	9.02	
Jul 1, 2008-Dec 31, 2008	003	X	
Jul 1, 2012-Dec 31, 2012	004	7.45	
Jan 1, 2012-Jun 30, 2012	004	NULL	Facility noted that there was no qualifying discharge.
Jul 1, 2011-Dec 31, 2011	004	7.2	
Jan 1, 2011-Jun 30, 2011	004	7.21	
Jul 1, 2010-Dec 31, 2010	004	7.35	
Jan 1, 2010-Jun 30, 2010	004	7.04	
Jul 1, 2009-Dec 31, 2009	004	NULL	Facility failed to sample. Warning Letter issued.
Jan 1, 2009-Jun 30, 2009	004	7.24	
Jul 1, 2008-Dec 31, 2008	004	7.4	
	90th percentile =	7.45	

PROCHEM Analytical Incorporated

Final Report

PCA Order No.: 415132
Report Date: 9/11/2007
Client: Crop Production Services
Project: Outfall 001

Sample Number: 415132-01
Description: Outfall 001
Date Collected: 8/21/2007
Matrix: Storm Water
Time Collected: 08:38
Sample Type: Grab

Analysis	Result	Reporting Limit	Units	Date Analyzed	Time Analyzed	Analyst	Method
Hydrogen Sulfide	< 0.1	0.1	mg/L	8/22/2007	14:00	KNB	HACH HS-C
Kepone	< 10.0	10.0	µg/L	8/28/2007	14:01	DKF	EPA 625
Sample extracted on 8/23/07. Sample re-extracted for surrogate recovery confirmation; sample results confirmed.							
Technical Chlordane	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
Ammonia as N	1.46	0.10	mg/L	8/22/2007	12:30	KVJ	SM 4500NH3,F
Chlorine, Residual	< 0.10	0.10	mg/L	8/22/2007	14:15	KNB	EPA 330.5
Cyanide, Total	< 0.005	0.005	mg/L	8/31/2007	10:00	KVJ	EPA 335.2
Hardness as CaCO3	100	5	mg/L	8/27/2007	10:10	KNB	EPA 130.2
Hexavalent Chromium	< 0.002	0.002	mg/L	8/22/2007	15:30	ASB	ASTM D1687
Nitrate as N	2.79	0.100	mg/L	8/23/2007	05:02	MLS	EPA 300.0
Antimony	< 5.0	5.0	µg/L	8/28/2007	16:45	CDM	EPA 200.7
Arsenic	< 5.0	5.0	µg/L	8/28/2007	16:45	CDM	EPA 200.7
Cadmium	< 1.0	1.0	µg/L	8/28/2007	16:45	CDM	EPA 200.7
Copper	12.4	5.0	µg/L	8/28/2007	16:45	CDM	EPA 200.7
Lead	< 5.0	5.0	µg/L	8/28/2007	16:45	CDM	EPA 200.7
Mercury	< 0.20	0.20	µg/L	8/29/2007	08:36	CDM	EPA 245.2
Nickel	5.3	5.0	µg/L	8/28/2007	16:45	CDM	EPA 200.7
Selenium	< 5.0	5.0	µg/L	8/28/2007	16:45	CDM	EPA 200.7

PROCHEM Analytical Incorporated

Final Report

PCA Order No.: 415132
Client: Crop Production Services
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Report Date: 9/11/2007

Sample Number: 415132-01
Date Collected: 8/21/2007
Time Collected: 08:38

Description: Outfall 001
Matrix: Storm Water
Sample Type: Grab

Analysis	Result	Reporting Limit	Units	Date Analyzed	Time Analyzed	Analyst	Method
Silver	< 2.0	2.0	µg/L	8/28/2007	16:45	CDM	EPA 200.7
Zinc	63.6	5.0	µg/L	8/28/2007	16:45	CDM	EPA 200.7
4,4'-DDD	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
		Sample extracted 08/24/07.					
4,4'-DDE	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
4,4'-DDT	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
Aldrin	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
Chlorpyrifos	< 0.5	0.5	µg/L	9/4/2007	21:38	WAL	EPA 622 Mod.
		Sample extracted 8/24/07.					
Demeton	< 0.5	0.5	µg/L	9/4/2007	21:38	WAL	EPA 622 Mod.
Dieldrin	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
Endosulfan I	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
Endosulfan II	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
Endrin	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
gamma-BHC	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
Guthion	< 0.5	0.5	µg/L	9/4/2007	21:38	WAL	EPA 622 Mod.
Heptachlor	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
Malathion	< 0.5	0.5	µg/L	9/4/2007	21:38	WAL	EPA 622 Mod.
Methoxychlor	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608

PROCHEM
Analytical Incorporated

Final Report

PCA Order No.: 415132
Report Date: 9/11/2007
Client: Crop Production Services
Project: Outfall 001

Sample Number: 415132-01
Date Collected: 8/21/2007
Time Collected: 08:38
Description: Outfall 001
Matrix: Storm Water
Sample Type: Grab

Analysis	Result	Reporting Limit	Units	Date Analyzed	Time Analyzed	Analyst	Method
Mirex	< 0.125	0.125	µg/L	9/4/2007	15:52	WAL	EPA 608
Toxaphene	< 1.25	1.25	µg/L	9/4/2007	15:52	WAL	EPA 608

VaFWIS Initial Project Assessment Report Compiled on 2/27/2013, 1:49:52 PM

Help

Known or likely to occur within a **2 mile radius around point 38,15,59.9 77,18,18.4** in **033 Caroline County, 099 King George County, 179 Stafford County, VA**

View Map of Site Location

477 Known or Likely Species ordered by Status Concern for Conservation (displaying first 20) (19 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
010032	FESE	II	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
060003	FESE	II	Wedgemussel, dwarf	Alasmidonta heterodon		BOVA
040129	ST	I	Sandpiper, upland	Bartramia longicauda		BOVA
040293	ST	I	Shrike, loggerhead	Lanius ludovicianus		BOVA
040385	ST	I	Sparrow, Bachman's	Aimophila aestivalis		BOVA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
100248	FS	I	Fritillary, regal	Speyeria idalia idalia		BOVA
040093	FS	II	Eagle, bald	Haliaeetus leucocephalus	Yes	BOVA,BAEANests
030063	CC	III	Turtle, spotted	Clemmys guttata		BOVA
010077		I	Shiner, bridle	Notropis bifrenatus		BOVA
040372		I	Crossbill, red	Loxia curvirostra		BOVA
040225		I	Sapsucker, yellow-bellied	Sphyrapicus varius		BOVA
040319		I	Warbler, black-throated green	Dendroica virens		BOVA
040052		II	Duck, American black	Anas rubripes		BOVA
040029		II	Heron, little blue	Egretta caerulea caerulea		BOVA
040105		II	Rail, king	Rallus elegans		BOVA,Habitat
040187		II	Tern, royal	Sterna maxima maximus		BOVA
040320		II	Warbler, cerulean	Dendroica cerulea		BOVA

040266		II	Wren, winter	Troglodytes troglodytes		BOVA
020005		III	Frog, carpenter	Lithobates virgatipes		BOVA

To view **All 477 species** View 477

* FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; FS=Federal Species of Concern; CC=Collection Concern

** I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams (2 records)

View Map of All Anadromous Fish Use Streams

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C69	Rappahannock river 1	Confirmed	6		IV	Yes
C85	Muddy Creek	Confirmed	1			Yes

Impediments to Fish Passage (1 records)

View Map of All Fish Impediments

ID	Name	River	View Map
47	TAYLORS DAM	BIRCHWOOD RUN	Yes

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests (3 records , 3 Observations with Threatened or Endangered species)

View Map of All Query Results
Bald Eagle Nests

Nest	N Obs	Latest Date	N Species			View Map
			Different Species	Highest TE *	Highest Tier **	
CA0902	1	Mar 8 2011	1	FS	II	Yes
CA9003	1	Mar 6 2010	1	FS	II	Yes
CA9201	1	Jan 1 1992	1	FS	II	Yes

Displayed 3 Bald Eagle Nests

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
040105		II	Rail, king	Rallus elegans	Yes

Public Holdings:

N/A

Compiled on 2/27/2013, 1:49:52 PM I448316.0 report=IPA searchType= R dist= 3218 poi= 38,15,59.9 77,18,18.4

PixelSize=64; Anadromous=0.037827; BECAR=0.027471; Bats=0.023651; Buffer=0.180484; County=0.116069; Impediments=0.035502; Init=0.216292; PublicLands=0.052408; SppObs=1.25954; TEWaters=0.035781; TierReaches=0.044909; TierTerrestrial=0.094813; Total=1.988769; Trout=0.042936

Site Location

38,15,59.9 -77,18,18.4
is the Search Point

Show Position Rings
◉ Yes ○ No
1 mile and 1/4 mile at the Search Point

Show Search Area
◉ Yes ○ No
2 Search distance miles radius

Search Point is at map center

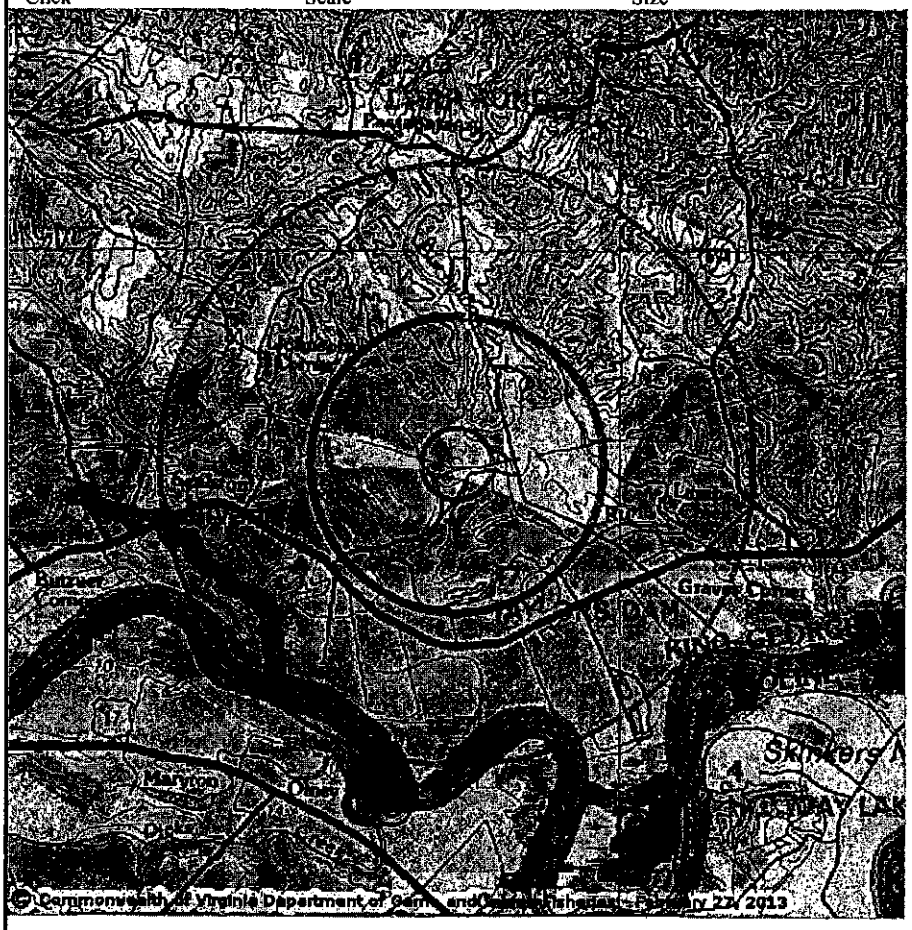
Base Map Choices
Topography

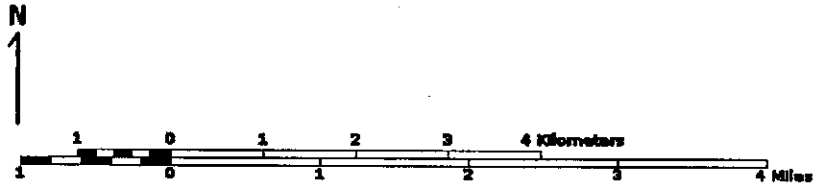
Map Overlay Choices
Current List: Position, Search, BECAR, BAEANests, TEWaters, TierII, Habitat, Trout, Anadromous

Map Overlay Legend

Refresh Browser Page

Map Click: Pan | Map Scale: In Zoom Out | Screen Size: Small Size Big | Help





Point of Search 38,15,59.9 -77,18,18.4
Map Location 38,15,59.9 -77,18,18.4

Select **Coordinate System:**
◉ Degrees,Minutes,Seconds Latitude - Longitude
○ Decimal Degrees Latitude - Longitude
○ Meters UTM NAD83 East North Zone
○ Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 293542 and top 4242713. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West.Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

Topographic maps and Black and white aerial photography for year 1990+-

T & E Waters
Federal
State

Predicted Habitat
WAP Tier I & II
Aquatic
Terrestrial

Trout Waters
Class I - IV
Class V - VI

Anadromous Fish Reach
Confirmed
Potential

23 Impediment

Position Rings
1 mile and 1/4
mile at the
Search Point

2 mile radius
Search Area

Bald Eagle
Concentration Areas
and Roosts

are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
Shaded topographic maps are from TOPO! ©2006 National Geographic http://www.national.geographic.com/topo
All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2013-02-27 13:50:19 (qa/qc December 5, 2012 8:04 - tn=448316.0 dist=3218 I)
$poi=38.2666389 -77.3051111

Crop Production Services

1160 Brake Road, Rocky Mount, NC 27801
252-977-0308 Phone
252-973-0761 Fax

February 25, 2013

Ms. Alison Thompson
Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, Virginia 22193

Re: Crop Production Services, Sealston: VPDES Permit # VA0088374
2012 Corrective Action Assessment
2453 Birchwood Creek Road
King George, Virginia 22485
Rubik Project No. 2013.85

Dear Ms. Thompson:

Attached is the 2012 Corrective Action Assessment for the Crop Production Services facility located at the above referenced address.

Thank you for your time and attention to this project. If you have any questions or additional comments pertaining to this project, please feel free to contact me.

Sincerely,

Nancy Vincek

Nancy Vincek
Manager, Operations Compliance
Crop Production Services

C: Marvin Martz, Crop Production Services
Duke McBroom, Crop Production Services
Brian Duggan, Crop Production Services
Mike Bickel, Rubik Environmental

Attachment: 2012 Corrective Action Assessment Report

RUBIK ENVIRONMENTAL, INC.

2012 CORRECTIVE ACTION ASSESSMENT REPORT

CROP PRODUCTION SERVICES
2453 BIRCHWOOD CREEK ROAD
KING GEORGE, VIRGINIA 22485

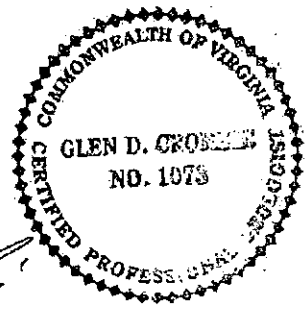
VPDES PERMIT NO. VA0088374

February 25, 2013

Submitted to:
Virginia Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, Virginia 22193

Prepared for:
Crop Production Services, Inc.
3005 Rocky Mountain Avenue
Loveland, Colorado 80538

Prepared by:
Rubik Environmental, Inc.
522 S. Independence Blvd., Suite 202B
Virginia Beach, Virginia 23452



Michael R. Bickel
Project Manager

Glen Crombie, P.G.
Virginia P.G. Certification #1073

TABLE OF CONTENTS

1.0 INTRODUCTION

Rubik Environmental, Inc., on behalf of Crop Production Services, Inc. (CPS), is pleased to submit the 2012 Corrective Action Assessment (CAA) to the Virginia Department of Environmental Quality (DEQ). This report is being submitted to satisfy issuance requirements of the Virginia Pollutant Discharge Elimination System (VPDES) permit number VA0088374, issued by the DEQ on June 25, 2008. According to VPDES Permit Condition Part I, D.8, submittal of a CAA annually, on or before February 23rd of each year is required.

The site location is depicted on **Figure 1** and a site map of the facility is provided on **Figure 2**.

1.1 Purpose

The purpose of this CAA is to assess the groundwater recovery system to determine if the system generates effective hydraulic control to mitigate off-site migration of constituents of concern (COCs) in groundwater during 2012. COCs for this site include nitrate.

1.2 Scope

The following outlines the scope of the 2012 CAA:

Section 2.0 Provides site background including a facility operational description and regional geology and hydrology;

Section 3.0 Provides an updated site history summary;

Section 4.0 Provides a summary of groundwater monitoring results and groundwater flow determination;

Section 5.0 Provides an overview of the groundwater recovery system, summary of recovery volumes and estimated zone of capture;

Section 6.0 Provides a discussion of 2012 monitoring results; and

Section 7.0 Provides the proposed scope of action.

This report is intended to meet the permit requirement and contains information collected in 2012 for the recovery system operations, water quality data, and water level data.

2.0 SITE BACKGROUND

2.1 Site Description

The Sealston Fertilizer Plant is located at 2453 Birchwood Creek Road in Sealston, Virginia; north of the Rappahannock River in King George County (**Figure 1**). Fertilizer production began in 1983 when the plant first opened and operates today as a fertilizer storage, distribution and blending facility. The plant is bounded to the north and east by the King George County Landfill and landfill operations, to the west by wooded land and to the south by undeveloped land and light industry. Site features include an office building, scales, storage buildings for packaged agricultural chemicals, a storage building for bulk agricultural chemicals, an above ground storage tank (AST) farm with liquid fertilizers, a pond, and dry fertilizer storage and blending (**Figure 2**).

2.2 Regional Geology and Hydrogeology

The site is located east of Sealston, Virginia and north of the Rappahannock River. The area surrounding the site is primarily used for agriculture and forest management. The topography is characterized by gently rolling hills with low relief. Surface elevations in vicinity range from a high of over 90 feet above mean sea level (msl) to the northwest and east of the site, to a low of approximately 70 feet above msl along the southern portion of the site.

Two southeast-flowing, intermittent creeks are located on and near the site. A pond located on the site receives surface water recharged from one of the identified intermittent creeks. Birchwood Run Creek is located along the eastern boundary of the site and an unnamed creek is located over 1,000 feet to the west (**Figure 1**). Both tributaries flow from north to south.

The site is located in the Coastal Plain Physiographic Province of eastern Virginia. Geologically, the area is underlain by an eastward thickening wedge of clastic sediments ranging in age from Quaternary to early Cretaceous.

Formations in the site vicinity, in descending order, are Quaternary fluvial/alluvial deposits overlying shallow marine deposits of Tertiary age. These Tertiary deposits overlie Cretaceous fluvial-deltaic sediments which overlie Triassic sediments of the Newark Group or crystalline rocks of Paleozoic and Upper-Proterozoic age.

Groundwater generally flows in the permeable sections of the aquifer, within gravelly sands usually at depths greater than 10 feet below grade (bgs), to the south-southeast since the 1990's before groundwater began onsite. Apparent undulations in the potentiometric surface are likely the result of monitoring wells screened in different geological units which have variable hydraulic heads or are yielding heads influenced by the current groundwater recovery pumping system.

3.0 SITE HISTORY

This section provides a site history and annual update according to VPDES permit VA0088374.

1979 – 1982

- This facility was reportedly first operated by Lebanon Chemical Corporation (d/b/a/ Piedmont Fertilizer Corporation) as a retail fertilizer distribution facility in 1979.

1983

- An important part of this site history are two abandoned and closed nitrogen storage areas (the "north" and the "west" areas) and one abandoned phosphoric acid area (the "east" area), see **Figure 2**. These areas were excavated in 1983 and lined with an impermeable geo-membrane when Lebanon Chemical Corporation, the owner of the facility at the time, upgraded the facility from a retail fertilizer distribution business to include fertilizer manufacture. As part of the 1983 facility upgrades, the Virginia Water Quality Board (VWQB) issued a "No Discharge Certificate" to Lebanon, with an effective date of December 19, 1983. As a permit condition for the installation of these areas, the Virginia Water Quality Board (VCWB) required Lebanon Chemical Corporation to monitor groundwater at the facility.

- In late 1983 or early 1984, four groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-4) were installed to fulfill groundwater monitoring requirements.

1984 - 1990

- Generally, the four monitoring wells were below the 45 milligrams per liter (mg/L) nitrate[1] standard when they were first sampled in 1984, but increased steadily over the period 1985 to 1989. In 1990, increases in nitrate concentrations were recorded in the four monitoring wells (including the two up-gradient wells MW-2 and MW-3), with nitrate-N concentrations between 94 and 660 mg/L nitrate (see footnote 1).

1991

- On August 1, 1991, in response to increases in nitrate concentrations from the April 1990 sample round, the VWCB issued a Notice of Violation (NOV) to Lebanon Chemical Corporation, citing a number of violations of their No Discharge Certificate, including those related to reporting requirements having been missed; violations of groundwater standards having been exceeded for pH, ammonia, and nitrate. A second NOV was issued 20 days later (on August 20, 1991) again citing violations of the certificate for the same violations of the facility's No Discharge Certificate as stated in the August NOV; reporting requirements having been missed; violations of groundwater standards having been exceeded for pH, ammonia, and nitrate.

---

[1] *Presumably "as-nitrate", which is equivalent to the then 10 mg N/l standard, but the reports are not clear on the units.*

- Following the 1991 issuance of the two NOVs, on January 23, 1992, the VWQB issued Lebanon Chemical a Special Order (Order) to address the issues in the NOVs.

- First generation wells were replaced: MW-1 became MW-1A in 1991, and MW-4 became MW-4R.

1992 - 1993

- Beginning in January of 1992, Lebanon completed a series of investigation and remediation activities as required by the Order.

1994

- In 1994, Lebanon submitted a remedial action plan to the DEQ. In the plan, the nitrogen storage areas were identified as probable source areas for the elevated concentration of nitrate-N in groundwater. The remedial action proposed had three components:

    1) Discontinuance of the use of the storage areas for liquid fertilizer storage;

    2) Removal of their liners and any impacted soil, and backfilling the areas and excavations; and,

    3) Installing a groundwater recovery system to recover impacted groundwater from the source areas (the nitrogen storage areas).

1995

- Following DEQ approval, the above-described remedial activities were initiated. In January 1995, approximately 360 tons of impacted soil was excavated from the west nitrogen storage area. Soil from this excavation was reportedly land-applied on property then owned by Lebanon Chemical immediately south of the facility (south of the railroad tracks).

1996

- Conclusions presented in the 1995 soil excavation report implicated surface water drainage into the open nitrogen storage areas (lined excavations for nitrogen storage) as a contributing factor in promoting infiltration and associated groundwater recharge in the source area.

- The west area was re-excavated and the groundwater sump was installed. The fate of these soils is not currently known, but is presumed land applied on the large tract of land owned by Lebanon at that time.

1997

- DEQ approved the reduction of monitoring wells to be sampled for water quality parameters to MW-5R, MW-6R, MW-9, MW-12, MW-23R, and MW-25.

1998

- VPDES Permit Number VA0088374 was issued for the facility. Based on the conditions of the VPDES permit, a Corrective Action Plan and a Groundwater Monitoring Program were subsequently prepared and submitted to DEQ in June 1998. On July 14, 1998 the State Water Control Board cancelled the Order for the Sealston facility.

1999

- Royster-Clark purchased the Sealston facility from Lebanon Chemical Corporation and continued operation as a retail agrichemical distribution facility.

2006

- In 2006, Agrium Inc. acquired Royster-Clark. The Sealston facility was part of this transaction. Day-to-day facility operation was then transferred to Agrium's wholly-owned subsidiary, CPS.

2008

- The current VPDES permit was issued for the facility on June 25, 2008, which expires on June 24, 2013. As required under Permit Part I.D.7, a Ground Water Monitoring Plan (GWMP) was prepared and submitted to the DEQ in August 2008; subsequent to DEQ's review, a letter dated November 6, 2008, was issued that requested additional monitoring wells to be included in the proposed scope.

2009

- In a memorandum from DEQ to CPS dated February 26, 2009, the DEQ indicated that additional soil and groundwater characterization is necessary to "ensure an adequate CAP" for this facility;

- In a letter dated March 20, 2009, DEQ requested that CPS "submit an approvable plan and schedule for effective capture of contaminants" for this facility. This was a request to modify the CAP, known as a Corrective Action Plan Modification (CAP-M).

- CPS responded on August 26, 2009, by providing a CAP-M prepared on their behalf by Environmental Alliance.

- DEQ responded to the CAP-M in two documents:

    1) In November 2, 2009 technical review memorandum; and

    2) In a November 12, 2009 letter to CPS requesting a response to questions on the CAP-M contained in the November 2, 2009 memorandum.

- CPS responded on December 23, 2009, by providing a revised CAP-M to the DEQ prepared on their behalf by ATC. The revised CAP-M concluded with a request for an extension to submit a finalized CAP-M following a site characterization study period that was designed to

supplement a response narrative to the CAP-M review memorandum; and to design a long term remedial strategy addressing source soil mitigation and dissolved nitrate migration. This report indicated that additional investigative activities are required prior to finalizing the CAP-M.

2010

- In a letter dated February 12, 2010, DEQ conditionally approved the revised CAP-M and proposed investigative activities, and required CPS to provide the results and updated CAP-M and updated groundwater monitoring plan to DEQ upon completion.
- As part of the revised CAP-M on July 12, 2010, monitoring wells MW-29 and MW-30 were installed and soil samples collected during well installation.
- August 3 and 4, 2010, a total of 28 groundwater monitoring wells were gauged and sampled at onsite and offsite locations for nitrate-N per United States Environmental Protection Agency (EPA) method 353.2 and field screened for pH.
- In December 2010, a site meeting was held with representatives of the DEQ, CPS, and their consultants. The project status was discussed, after which a schedule for submission of the revised CAP-M was set for February 28, 2011, a date which was later re-set by an extension request to March 31, 2010.

2011

- A draft CAP-M and GWMP report was submitted to DEQ on March 1, 2011 for review and discussion.
- In a letter dated May 25, 2011, DEQ states that the Draft CAP-M and GWMP report (March 1, 2011) lacked sufficient evaluation and recourse to address offsite nutrient concentrations. DEQ requested a revised CAP-M be submitted by July 31, 2011.
- A finalized CAP-M and GWMP report was submitted to DEQ on August 1, 2011 (Revised, April 13, 2012).
- In a letter dated September 28, 2011, DEQ responded to the August 1, 2011 CAP-M and GWMP requesting additional information to clarify the proposed corrective action and monitoring scope as associated with the CAP-M and GWMP report.
- A response letter dated October 31, 2011 was submitted to DEQ by CPS to address the September, 2011 letter.

2012

- In a letter dated February 2, 2012, DEQ responded to the October 31, 2011 CPS submittal with their response to DEQ comments on the draft CAP-M and GWMP. DEQ was satisfied with the responses; however, they requested that CPS continue to monitor MW-10 and MW-19R on a semi-annual schedule.

- A finalized CAP-M and GWMP report was submitted to DEQ on April 13, 2012.
- In accordance with the April 2012 CAP-M and GWMP, CPS submitted a CAP-M Addendum to implement a permeable reactive barrier / groundwater injection CAP, dated October 12, 2012.

Since the time of the original VPDES permit issuance, portions of the Sealston facility have been sold. The facility currently consists of approximately 14 acres and only 11 of the monitoring wells and the two recovery wells are within the current facility property boundaries.

4.0 REPORTING AND SCHEDULING

The following sections summarize the 2012 groundwater monitoring scope and data summary.

4.1 Monitoring

During the 2012 monitoring year, bi-annual groundwater samples were collected from selected monitoring wells on June 20 - 21 and November 14 - 15. During both events, samples were collected from monitoring wells MW-3, MW-5R, MW-6R, MW-9, MW-12, MW-19R, MW-20R, MW-23R, MW-24, MW-25, MW-27, and MW-28.

4.2 Groundwater Flow Determination

In November 2012, static water levels of the shallow groundwater aquifer ranged from a depth of 7.06 feet below top of casing in monitoring well MW-12 (elevation of 70.37 feet) to 28.36 feet below top of casing in monitoring well MW-23R (elevation of 49.88 feet). Groundwater elevations indicate primary groundwater flow direction is to the east southeast with bifurcated flow south of the dry chemical building. Groundwater elevation data for 2012 is presented in **Table 1** and November 2012 groundwater elevation data is interpreted on **Figure 2**.

4.3 Groundwater Analytical Results

Groundwater samples collected in June and December 2012 were collected and analyzed for nitrate-N in a fixed based laboratory and for pH in the field. Laboratory reports for the 2012 sampling events have been previously submitted with their appropriate bi-annual monitoring reports. Nitrate results that exceed the Virginia Groundwater Standard for nitrate-N [5 mg/L] are highlighted in bold in **Table 2**. Dissolved nitrate-N isoconcentration maps where generated using the groundwater analytical data collected during the bi-annual monitoring periods in 2012. These figures are attached as **Figure 3** and **Figure 4**.

5.0 GROUNDWATER RECOVERY SYSTEM

The two-point groundwater recovery system (MW-26 and the west area trench) operated continuously during 2012. The following sections summarize 2012 system recovery yields and induced hydraulic control.

5.1 System Overview

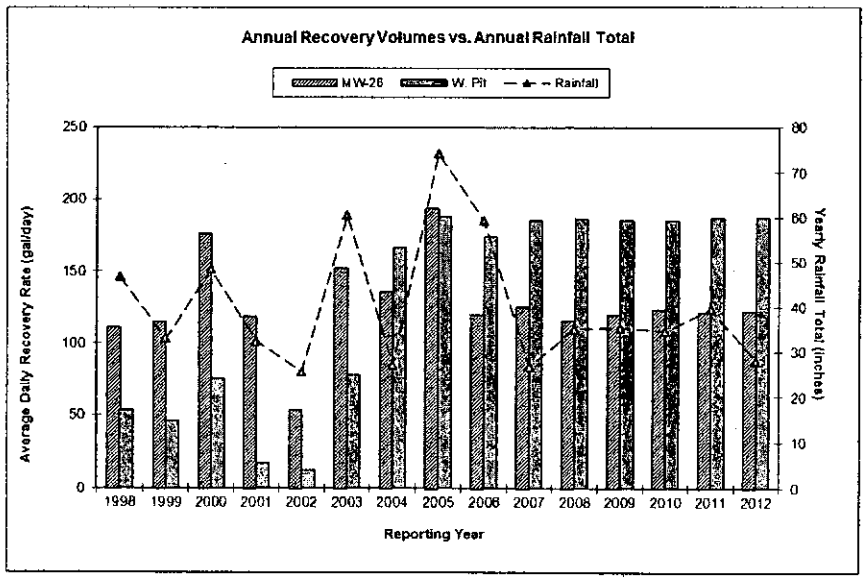
The system recovers groundwater from the shallow water table using MW-26 as the recovery point and recovers surface infiltrated water that collects in the west storage area via a French drain system. Both recovery streams are piped into nearby holding tanks and used as makeup water in the production of fertilizer.

Well MW-26 is screened from 14.5 feet bgs to 19.5 bgs within the shallow water table. The shallow water table zone is dominated by fine silt and clay to approximately 20 feet bgs and a blue sandy-clay to approximately 30 feet bgs. Below the blue sandy-clay lithology, the regional shallow aquifer table dominates the gravel and sand lithology below 35 feet bgs.

The system was designed to mitigate the migration of nitrate impacted groundwater emanating from the former subsurface storage areas. Based on historic site investigation findings, shallow nutrient enriched soils near the former east, north, and west storage areas present the highest concentrations of adsorbed nitrate. Soil removal at these areas occurred in 1995 followed by the implementation of the groundwater recovery system previously identified above.

5.2 2012 Water Recovery Yields

The 2012 operation logs for recovery well MW-26 and the west area groundwater recovery drain and sump are presented in **Table 3**. The total amount of groundwater recovered by the recovery system during 2012 was 113,072 gallons; 44,822 gallons from MW-26 and 68,250 gallons from the west French drain. The average daily recovery volume for MW-26 is 122.8 gallons per day and 187 gallons per day from the west French drain. These recovery rates are generally consistent with historic annual recovery volumes and rainfall totals since 2006, which are presented in **Table 4**. A graphic summary of the historic recovery and rainfall data since 1998 is presented below.



5.3 Hydraulic Control

A groundwater contour map was generated using groundwater elevation data collected on November 2012 (**Table 1**) to evaluate groundwater flow and to estimate the extent of hydraulic control (extent of capture) induced by the current groundwater recovery systems. The estimated extent of capture along with the November 2012 groundwater contour interpretation is presented as **Figure 2**.

The extent of groundwater capture was estimated based on groundwater flow in the vicinity of the western storage area and MW-26. The groundwater capture zone, interpreted using the November 2012 groundwater elevations, is presented on **Figure 2**.

The estimated capture zone encompasses the shop area and is limited to the shallow groundwater south of the former west storage area and south-southeast of the adjacent former east storage area and includes monitoring wells MW-6R, MW-7, and MW-22.

6.0 MONITORING DISCUSSION

Groundwater monitoring was conducted bi-annually in 2012 on June 20 and November 14, and included collecting groundwater samples from monitoring wells MW-3, MW-5R, MW-6R, MW-9, MW-12, MW-19R, MW-20R, MW-23R, MW-24, MW-25, MW-27, and MW-28. Groundwater elevations were measured and groundwater samples collected from each monitoring well were laboratory analyzed for nitrate-N and field analyzed for pH. Groundwater monitoring data for 2012 is presented in **Table 1**, and current and historical analytical results are summarized in **Table 2.**

Groundwater analytical results from the June 2012 sample event indicated that nitrate-N concentrations in onsite monitoring wells MW-6R (14 mg/L) and MW-9 (6.9 mg/L) and offsite monitoring wells MW-19R (2.9 mg/L), MW-23R (16 mg/L), MW-24 (21 mg/L), MW-27 (25 mg/L), and MW-28 (22 mg/L) exceed the Virginia Groundwater Standard for nitrate-N (5 mg/L). Nitrate-N isoconcentration contours for the June 2012 sampling event are presented as **Figure 3**.

Groundwater analytical results from the November 2012 sample event indicated that nitrate-N concentrations in onsite monitoring wells MW-6R (110 mg/L), MW-9 (55 mg/L), and MW-12 (55 mg/L) and offsite monitoring wells MW-19R (12 mg/L), MW-23R (19 mg/L), MW-24 (14 mg/L), MW-25 (6.5 mg/L), MW-27 (27 mg/L), and MW-28 (71 mg/L) exceed the Virginia Groundwater Standard for nitrate-N (5 mg/L). Nitrate-N isoconcentration contours for the November 2012 sampling event are presented as **Figure 4**.

As depicted in **Figure 2**, the estimated extent of hydraulic control for nutrient recovery is delineated based on the observed depression in the water table in the vicinity of the former west storage area and MW-26. Based on the November 2012 gauging data, it appears the extent of hydraulic control associated with recovery operations encompasses the former west tank area as observed in monitoring wells MW-6R, MW-7, and MW-22.

Graphs depicting dissolved nitrate concentrations for monitoring wells MW-5R, MW-6R, MW-9, MW-12, MW-19R, MW-20R, MW-23R, MW-24, MW-25, MW-27, and MW-28 are presented in

Appendix A. Graphical interpretation of analytical results indicates a decreasing trend of nitrate concentrations (as compared to 2010 and 2011) in MW-6R, MW-9, MW-12, MW-19R, MW-20R, MW-24, MW-25, and MW-28 during the June 2012 sample event. However an increase in dissolve nitrate was observed during the November 2012 sample event in the same wells. Well MW-27 continues to shows a decrease in concentration since the maximum concentration in July 2010. Dissolved nitrate concentrations observed in MW-23R and MW-24 from June 2012 and November 2012 fluctuate; however, the 2012 concentrations did not exceed 2010 concentrations in MW-23R and 2010 concentrations in MW-24.

The 2012 groundwater recovery operation log for recovery well MW-26 and the former west storage area recovery drain is presented in **Table 3**. The total groundwater recovered by MW-26 and the West Pit Recovery Drain in 2012 was 113,072 gallons, which exceeds the amount recovered in 2011 (112,722 gallons). Historic annual recovery volumes and rainfall totals since 1998 are presented in **Table 4**.

November 2012 groundwater elevations indicate an east-southeast groundwater flow direction, which is consistent with 2011. General interpretation is that groundwater flow is to the east-southeast across the site with bifurcated flow towards the south near the dry chemical building. The groundwater isocontour map for the November 2012 monitoring event is depicted on **Figure 2.**

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

The following conclusions are based on findings provided from the evaluation of current site conditions compared to the overall effectiveness of current and historic corrective action measures to mitigate off-site plume migration and dissolved nitrate concentrations in groundwater through 2012.

- Since 1998, the current recovery system configuration in the former west storage area and MW-26 has operated to mitigate the migration of elevated dissolved nitrate located within its estimated zone of capture as depicted in **Figure 2**. This is evidenced by the spatial change in nitrate-N concentration (Δ_c) observed in MW-9 (down-gradient of the recovery system(s) and former storage areas), as compared to MW-6R (up-gradient of the recovery system(s) and within the former storage areas) during the same period. A graphic depiction of MW-6R and MW-9 nitrate concentrations, as presented in **Appendix A**, depicts the nitrate-N concentrations in up-gradient well MW-6R to be an approximate order of magnitude higher than what is observed in down-gradient well MW-9 since 1998.

- Since both groundwater extraction systems are entirely in the shallow clayey water bearing unit to approximately 20 to 25 feet bgs, (CAP-M / GWMP, ATC; April, 2012), they cannot generate a significant radius of influence to affect down gradient nitrate-N impacted wells (MW-09, MW-10, MW-18, and MW-19R). Other than providing mitigation control, these recovery rates cannot produce an ROI sufficient to influence the monitoring wells outside the observed zone of capture.

- A data gap exists that limits the evaluation to distinguish the nitrate source for the dissolved nitrate concentrations observed in monitoring wells MW-23R and MW-24.

7.2 Recommendations

Rubik presents the following recommendations for 2013:

1. Install a deeper screened well near MW-29 to compliment the well's shallow screen placement and assess the deeper aquifer for nitrate concentrations and provide to determine nitrate-N source in wells MW-23R and MW-24. This will be conducted in accordance with the CAP-M Addendum, (Cardno ATC; October 2012).

2. Abandon MW-05R in accordance with the CAP-M Addendum, (Cardno ATC; October 2012).

3. Implement remediation pilot study in accordance with the CAP-M Addendum, (Cardno ATC; October 2012).

4. Implement a groundwater monitoring plan (GWMP) in accordance with the CAP-M Addendum, (Cardno ATC; October 2012).

7.3 2013 Monitoring Schedule

First Bi-Annual Monitoring (January – June):

- Gauge wells MW-01A, MW-03, MW-06R, MW-09, MW-10, MW-11, MW-12, MW-13, MW-18, MW-19, MW-20R, MW-23R, MW-24, MW-25, MW-27, MW-28, MW-29, and MW-30; and,

- Sample wells MW-01A, MW-03, MW-06R, MW-09, MW-10, MW-11, MW-12, MW-13, MW-18, MW-19, MW-20R, MW-23R, MW-24, MW-25, MW-27, MW-28, MW-29, and MW-30.

Second Bi-Annual Monitoring (July – December):

- Gauge wells MW-01A, MW-03, MW-06R, MW-09, MW-10, MW-11, MW-12, MW-13, MW-18, MW-19, MW-20R, MW-23R, MW-24, MW-25, MW-27, MW-28, MW-29, and MW-30; and,

- Sample wells MW-01A, MW-06R, MW-10, MW-11, MW-12, MW-13, MW-18, MW-19, MW-27, MW-28, MW-29, and MW-30.

8.0 REFERENCES

ATC Associates, Inc. 2012. Corrective Action Plan – Modification and Ground Water Monitoring Plan. Revised. April 13.

Cardno ATC, Inc and Landau Associates. 2012. Corrective Action Plan – Modification Addendum. October 12.

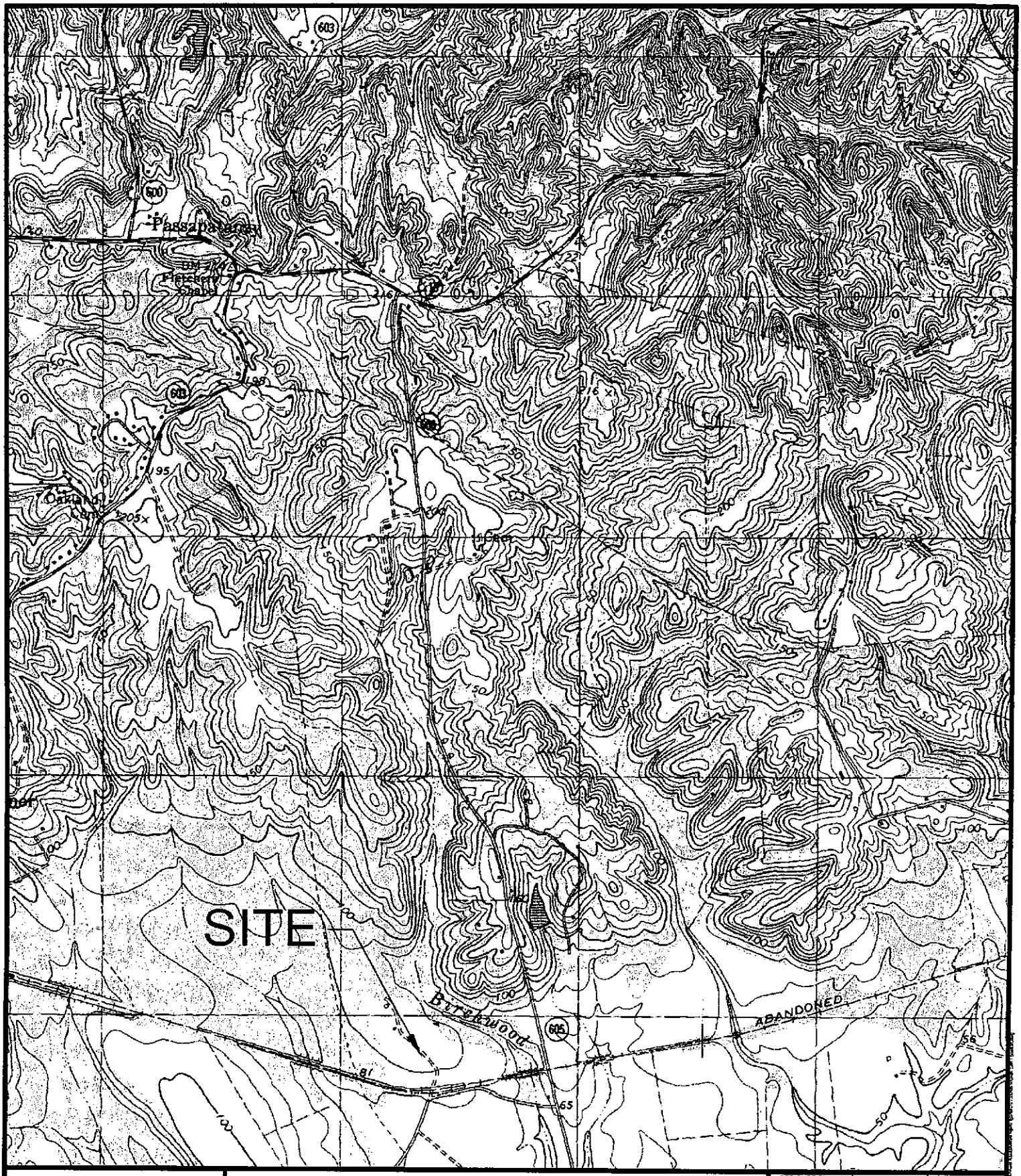
ATC Associates, Inc. 2012. 2011 Annual Corrective Action Assessment Report. February 22.

FIGURES

Corrective Action Annual Report

CPS SEALSTON FACILITY
SEALSTON, VIRGINIA

February 21, 2013



RUBIK ENVIRONMENTAL, INC.
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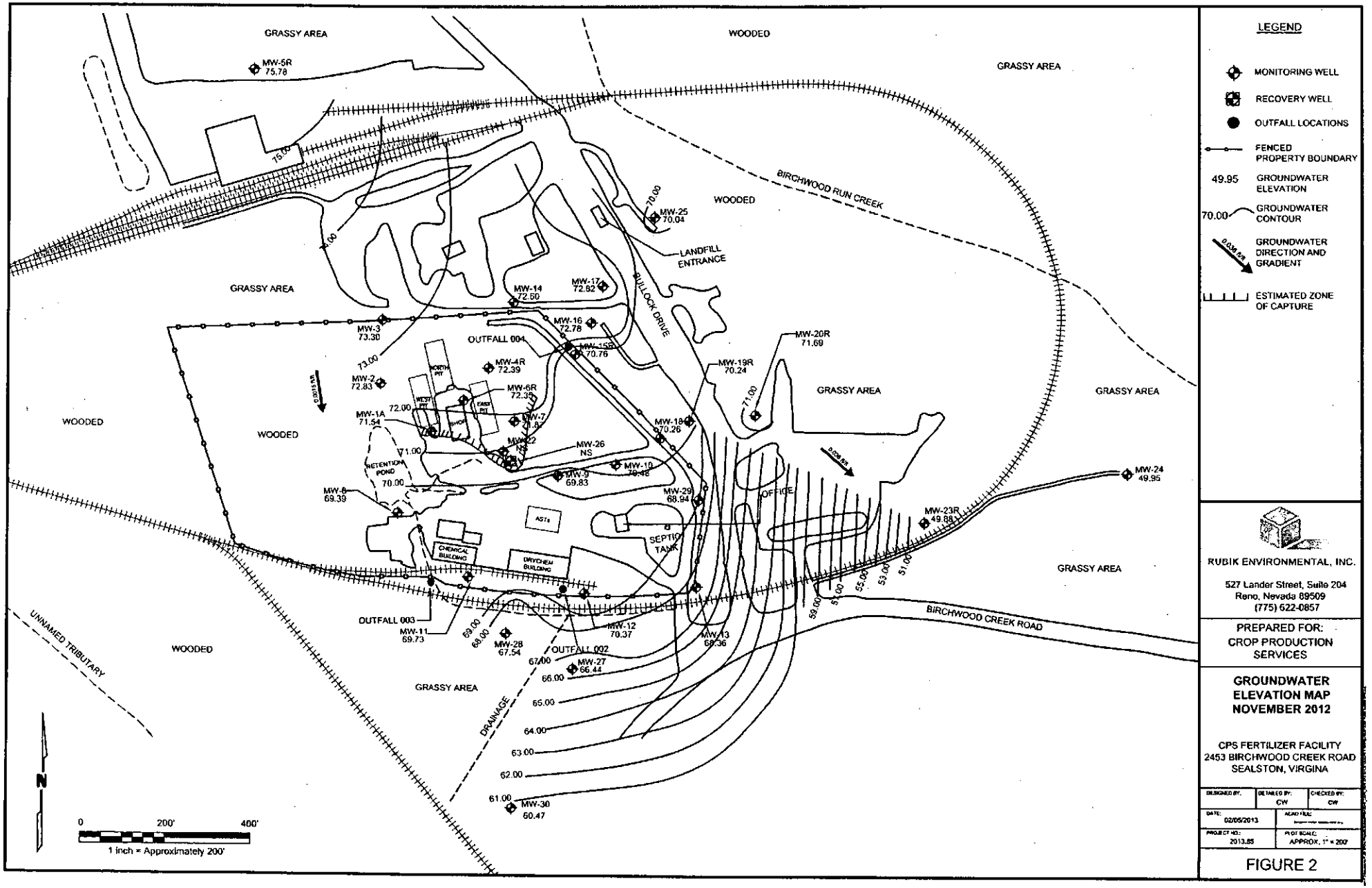
SITE LOCATION MAP

CPS FERTILIZER FACILITY
2453 BIRCHWOOD CREEK ROAD
SEALSTON, VIRGINIA

DESIGNED BY:	DETAILED BY:	CHECKED BY:
CW	CW	MB
DATE: 02/05/2013	ACAD FILE: [illegible]	
PROJECT NO.: 2013.85	PLOT SCALE: NTS	

FIGURE 1



RUBIK ENVIRONMENTAL, INC.

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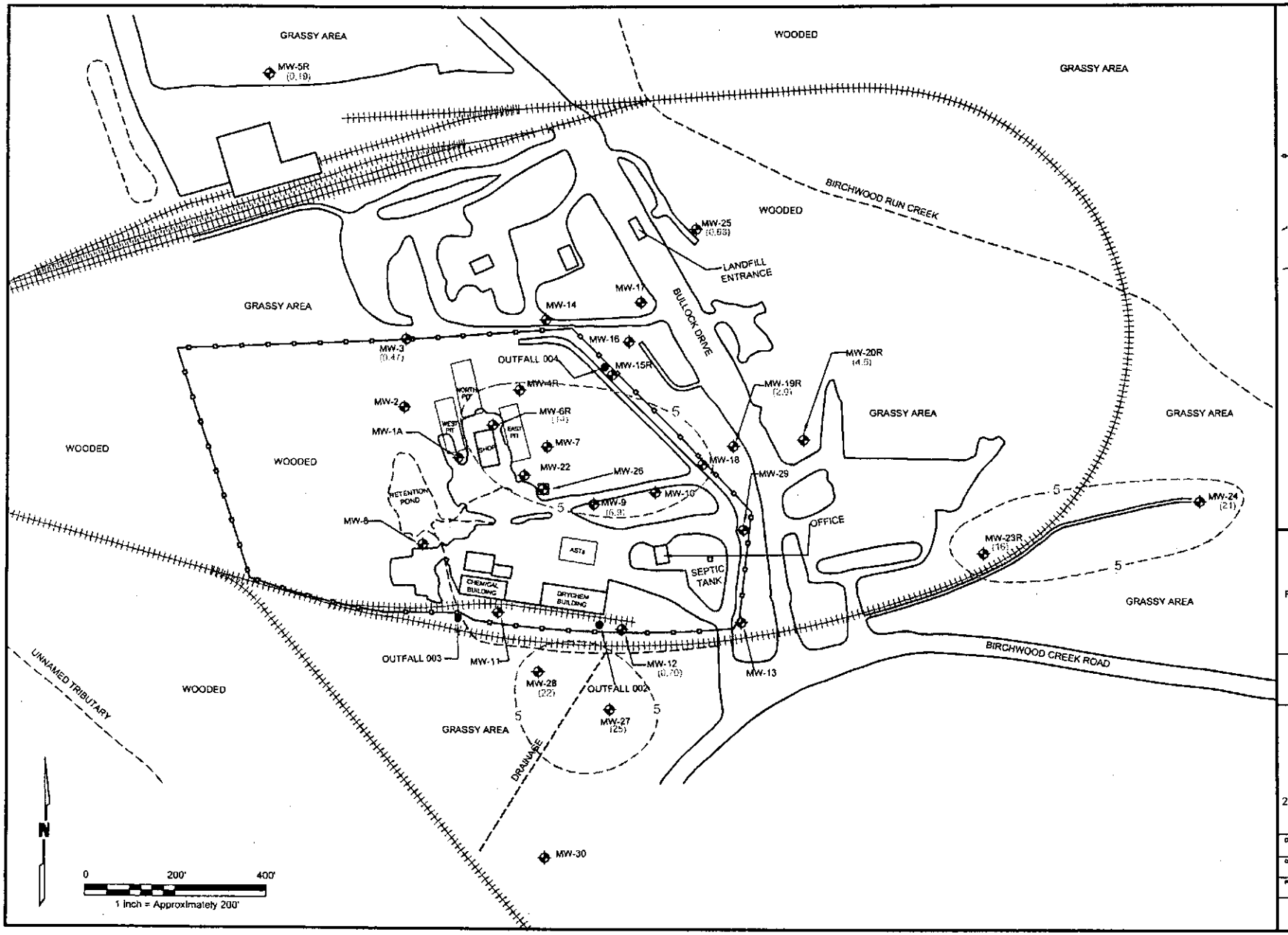
PREPARED FOR:
CROP PRODUCTION SERVICES

GROUNDWATER ELEVATION MAP NOVEMBER 2012

CPS FERTILIZER FACILITY
2453 BIRCHWOOD CREEK ROAD
SEALSTON, VIRGINIA

DESIGNED BY:	DETAILED BY:	CHECKED BY:
	CW	CW
DATE: 02/05/2013	ACAD FILE:	
PROJECT NO.: 2013.85	PLOT SCALE: APPROX. 1" = 200'	

FIGURE 2



LEGEND

- MONITORING WELL
- RECOVERY WELL
- OUTFALL LOCATIONS
- FENCED PROPERTY BOUNDARY
- (5.3) NITRATE-N CONCENTRATION
- 5 NITRATE-N ISOCONTOUR
- SURFACE WATER

RUBIK ENVIRONMENTAL, INC.

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(775) 622-0857

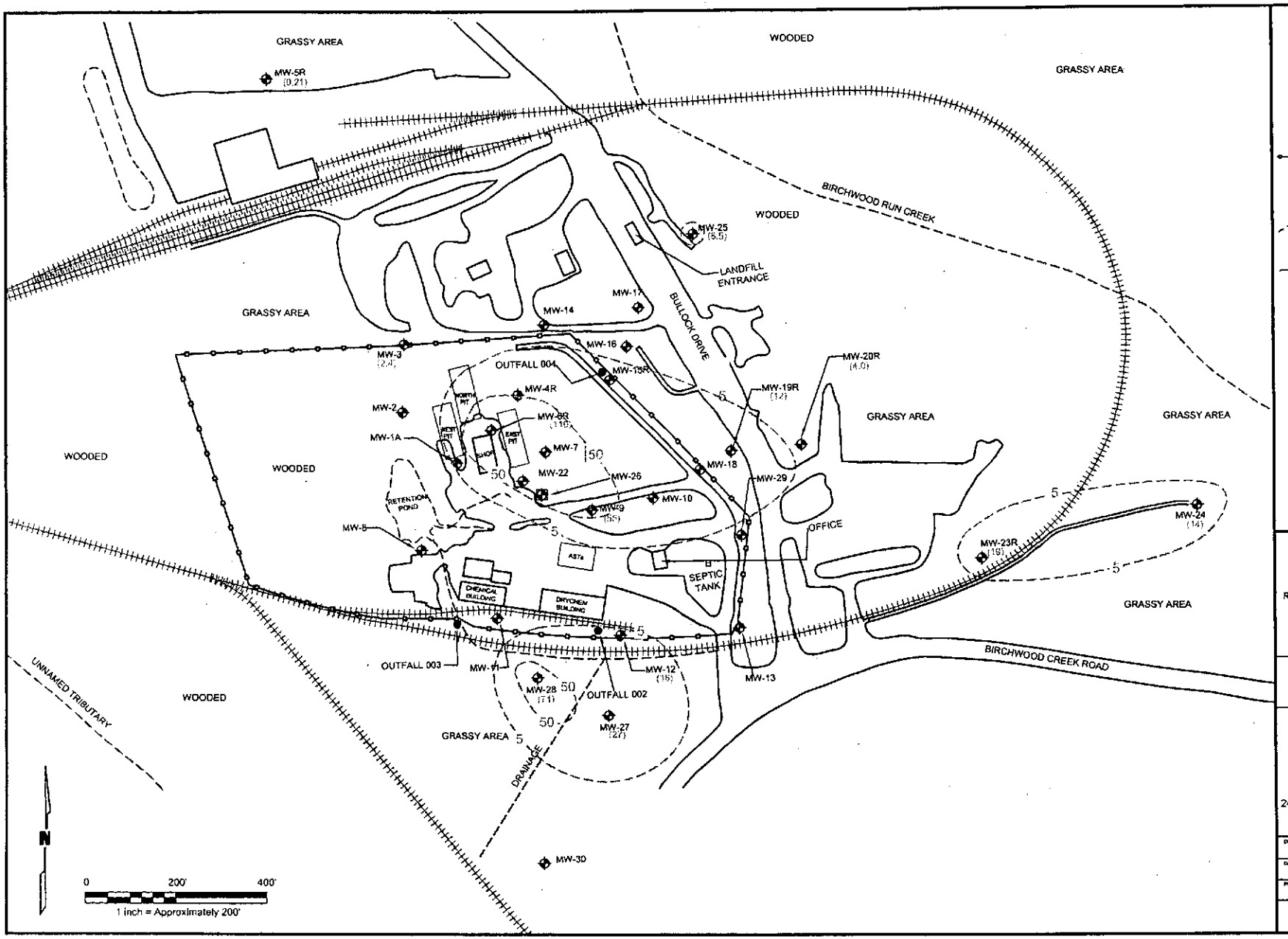
PREPARED FOR:
CROP PRODUCTION SERVICES

NITRATE-N ISOCONCENTRATION CONTOUR MAP JUNE 2012

CPS FERTILIZER FACILITY
2453 BIRCHWOOD CREEK ROAD
SEALSTON, VIRGINIA

DESIGNED BY:	DETAILED BY: CW	CHECKED BY: CW
DATE: 02/07/2013	ACAD FILE:	
PROJECT NO.: 2013.86	PLOT SCALE: APPROX. 1" = 200'	

FIGURE 3



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PREPARED FOR:
CROP PRODUCTION SERVICES

NITRATE-N ISOCONCENTRATION CONTOUR MAP NOVEMBER 2012

CPS FERTILIZER FACILITY
2453 BIRCHWOOD CREEK ROAD
SEALSTON, VIRGINIA

DESIGNED BY:	DETAILED BY: CW	CHECKED BY: CW
DATE: 02/07/2013	ACAD FILE:	
PROJECT NO.: 2013.85	PLOT SCALE: APPROX. 1" = 200'	

FIGURE 4

TABLES

Corrective Action Annual Report

CPS SEALSTON FACILITY
SEALSTON, VIRGINIA

February 25, 2013

Table 1
Groundwater Elevation Measurements
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Top of Casing Elevation (feet, NGVD)	Depth to Water (feet)	Groundwater Elevation (feet, NGVD)
MW-1 A	9/24/2007	82.86	11.36	71.50
	11/17/2008	82.86	10.30	72.56
	6/8/2009	82.86	6.48	76.38
	12/1/2009	82.86	7.31	75.55
	6/2/2010	82.86	9.08	73.78
	8/3/2010	82.86	12.07	70.79
	3/2/2011	82.86	7.55	75.31
	9/13/2011	82.86	7.48	75.38
	6/20/2012	82.86	9.67	73.19
	11/14/2012	82.86	11.32	71.54
MW-2	9/24/2007	83.09	10.47	72.62
	11/17/2008	83.09	9.23	73.86
	6/8/2009	83.09	5.25	77.84
	12/1/2009	83.09	5.96	77.13
	6/2/2010	83.09	8.21	74.88
	8/3/2010	83.09	11.42	71.67
	3/2/2011	83.09	6.05	77.04
	9/13/2011	83.09	6.50	76.59
	6/20/2012	83.09	8.70	74.39
	11/14/2012	83.09	10.26	72.83
MW-3	9/24/2007	84.56	11.42	73.14
	11/17/2008	84.56	8.35	76.21
	6/8/2009	84.56	3.67	80.89
	12/1/2009	84.56	2.83	81.73
	6/3/2010	84.56	8.65	75.91
	8/4/2010	84.56	11.97	72.59
	3/3/2011	84.56	5.76	78.80
	9/14/2011	84.56	5.20	79.36
	6/20/2012	84.56	9.32	75.24
	11/14/2012	84.56	11.26	73.30
MW-4R	6/8/2009	82.37	3.27	79.10
	12/1/2009	82.37	3.17	79.20
	6/2/2010	82.37	7.26	75.11
	8/3/2010	82.37	10.45	71.92
	3/2/2011	82.37	4.62	77.75
	9/13/2011	82.37	4.00	78.37
	6/20/2012	82.37	7.78	74.59
	11/14/2012	82.37	9.98	72.39

Table 1
Groundwater Elevation Measurements
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Top of Casing Elevation (feet, NGVD)	Depth to Water (feet)	Groundwater Elevation (feet, NGVD)
MW-5R	9/24/2007	88.27	12.40	75.87
	11/17/2008	88.27	11.34	76.93
	6/8/2009	88.27	8.83	79.44
	12/1/2009	88.27	9.81	78.46
	6/3/2010	88.27	10.93	77.34
	8/4/2010	88.27	13.48	74.79
	3/3/2011	88.27	9.48	78.79
	9/14/2011	88.27	10.16	78.11
	6/20/2012	88.27	11.12	77.15
	11/14/2012	88.27	12.49	75.78
MW-6R	9/24/2007	84.23	12.35	71.88
	11/17/2008	84.23	9.75	74.48
	6/8/2009	84.23	4.98	79.25
	12/1/2009	84.23	5.40	78.83
	6/2/2010	84.23	8.74	75.49
	8/3/2010	84.23	12.27	71.96
	3/2/2011	84.23	7.22	77.01
	9/13/2011	84.23	5.80	78.43
	6/20/2012	84.23	9.70	74.53
	11/14/2012	84.23	11.88	72.35
MW-7	9/24/2007	81.51	10.30	71.21
	11/17/2008	81.51	7.28	74.23
	6/8/2009	81.51	3.42	78.09
	12/1/2009	81.51	3.33	78.18
	6/2/2010	81.51	6.80	74.71
	8/3/2010	81.51	10.33	71.18
	3/2/2011	81.51	4.81	76.70
	9/13/2011	81.51	3.96	77.55
	6/20/2012	81.51	7.83	73.68
	11/14/2012	81.51	9.64	71.87
MW-8	9/24/2007	79.19	5.90	73.29
	11/17/2008	79.19	NG	NG
	6/8/2009	79.19	2.83	76.36
	12/1/2009	79.19	3.14	76.05
	6/2/2010	79.19	4.76	74.43
	8/4/2010	79.19	7.16	72.03
	3/2/2011	79.19	3.22	75.97
	9/13/2011	79.19	3.55	75.64
	6/20/2012	79.19	4.97	74.22
	11/14/2012	79.19	9.80	69.39

Table 1
Groundwater Elevation Measurements
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Top of Casing Elevation (feet, NGVD)	Depth to Water (feet)	Groundwater Elevation (feet, NGVD)
MW-9	9/24/2007	78.85	9.21	69.64
	11/17/2008	78.85	7.60	71.25
	6/8/2009	78.85	3.08	75.77
	12/1/2009	78.85	3.60	75.25
	6/2/2010	78.85	6.27	72.58
	8/4/2010	78.85	9.38	69.47
	3/2/2011	78.85	4.69	74.16
	9/13/2011	78.85	3.61	75.24
	6/20/2012	78.85	7.18	71.67
	11/14/2012	78.85	9.02	69.83
MW-10	6/8/2009	78.82	1.84	76.98
	12/1/2009	78.82	1.93	76.89
	6/2/2010	78.82	5.93	72.89
	8/4/2010	78.82	8.57	70.25
	3/2/2011	78.82	3.53	75.29
	9/13/2011	78.82	2.25	76.57
	6/20/2012	78.82	6.90	71.92
	11/14/2012	78.82	8.34	70.48
MW-11	6/8/2009	78.03	3.15	74.88
	12/1/2009	78.03	3.83	74.20
	6/2/2010	78.03	5.28	72.75
	8/4/2010	78.03	9.00	69.03
	3/2/2011	78.03	3.90	74.13
	9/13/2011	78.03	3.85	74.18
	6/20/2012	78.03	6.40	71.63
	11/14/2012	78.03	8.30	69.73
MW-12	9/24/2007	77.43	8.75	68.68
	11/17/2008	77.43	5.05	72.38
	6/8/2009	77.43	3.28	74.15
	12/1/2009	77.43	3.02	74.41
	6/2/2010	77.43	5.46	71.97
	8/4/2010	77.43	9.60	67.83
	3/2/2011	77.43	3.55	73.88
	9/13/2011	77.43	3.66	73.77
	6/20/2012	77.43	6.56	70.87
	11/14/2012	77.43	7.06	70.37

Table 1
Groundwater Elevation Measurements
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Top of Casing Elevation (feet, NGVD)	Depth to Water (feet)	Groundwater Elevation (feet, NGVD)
MW-13	9/24/2007	77.86	10.36	67.50
	11/17/2008	77.86	9.20	68.66
	6/8/2009	77.86	3.20	74.66
	12/1/2009	77.86	2.83	75.03
	6/2/2010	77.86	7.50	70.36
	8/4/2010	77.86	9.43	68.43
	3/2/2011	77.86	6.15	71.71
	9/13/2011	77.86	4.30	73.56
	6/20/2012	77.86	8.75	69.11
	11/14/2012	77.86	9.50	68.36
MW-14	9/24/2007	84.40	12.60	71.80
	6/8/2009	84.40	5.17	79.23
	12/1/2009	84.40	5.58	78.82
	6/2/2010	84.40	9.08	75.32
	8/4/2010	84.40	12.45	71.95
	3/2/2011	84.40	7.26	77.14
	9/13/2011	84.40	6.38	78.02
	6/20/2012	84.40	10.21	74.19
	11/14/2012	84.40	11.80	72.60
MW-15R	6/8/2009	81.33	4.44	76.89
	12/1/2009	81.33	4.92	76.41
	6/2/2010	81.33	8.06	73.27
	8/4/2010	81.33	11.10	70.23
	3/2/2011	81.33	6.41	74.92
	9/13/2011	81.33	5.09	76.24
	6/20/2012	81.33	9.00	72.33
	11/14/2012	81.33	10.57	70.76
MW-16	6/8/2009	81.37	5.15	76.22
	12/1/2009	81.37	5.00	76.37
	6/2/2010	81.37	7.66	73.71
	8/4/2010	81.37	7.46	73.91
	3/2/2011	81.37	6.41	74.96
	9/13/2011	81.37	5.56	75.81
	6/20/2012	81.37	8.58	72.79
	11/14/2012	81.37	8.59	72.78

Table 1
Groundwater Elevation Measurements
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Top of Casing Elevation (feet, NGVD)	Depth to Water (feet)	Groundwater Elevation (feet, NGVD)
MW-17	9/24/2007	81.98	10.14	71.84
	11/17/2008	81.98	8.20	73.78
	6/8/2009	81.98	5.21	76.77
	12/1/2009	81.98	5.14	76.84
	6/2/2010	81.98	8.23	73.75
	8/4/2010	81.98	9.70	72.28
	3/2/2011	81.98	7.00	74.98
	9/13/2011	81.98	6.05	75.93
	6/20/2012	81.98	9.08	72.90
	11/14/2012	81.98	9.16	72.82
MW-18	6/8/2009	80.64	3.77	76.87
	12/1/2009	80.64	3.62	77.02
	6/2/2010	80.64	8.11	72.53
	8/4/2010	80.64	10.70	69.94
	3/2/2011	80.64	5.55	75.09
	9/13/2011	80.64	4.20	76.44
	6/20/2012	80.64	9.08	71.56
	11/14/2012	80.64	10.38	70.26
MW-19R	9/24/2007	81.58	12.40	69.18
	11/17/2008	81.58	10.51	71.07
	6/8/2009	81.58	5.24	76.34
	12/1/2009	81.58	5.14	76.44
	6/2/2010	81.58	9.47	72.11
	8/3/2010	81.58	12.19	69.39
	3/3/2011	81.58	7.31	74.27
	9/13/2011	81.58	5.61	75.97
	6/20/2012	81.58	10.35	71.23
	11/14/2012	81.58	11.34	70.24
MW-20R	9/24/2007	80.77	11.50	69.27
	11/17/2008	80.77	7.01	73.76
	6/8/2009	80.77	3.88	76.89
	12/1/2009	80.77	3.99	76.78
	6/2/2010	80.77	8.56	72.21
	8/3/2010	80.77	11.51	69.26
	3/3/2011	80.77	6.35	74.42
	9/13/2011	80.77	4.80	75.97
	6/20/2012	80.77	10.04	70.73
	11/14/2012	80.77	9.08	71.69
MW-22	3/2/2011	NS	7.38	NS
	6/20/2012	NS	9.44	NS
	11/14/2012		11.31	

Table 1
Groundwater Elevation Measurements
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Top of Casing Elevation (feet, NGVD)	Depth to Water (feet)	Groundwater Elevation (feet, NGVD)
MW-23R	9/24/2007	78.24	27.45	50.79
	11/17/2008	78.24	27.70	50.54
	6/8/2009	78.24	26.33	51.91
	12/1/2009	78.24	26.80	51.44
	6/2/2010	78.24	24.90	53.34
	8/3/2010	78.24	31.60	46.64
	3/3/2011	78.24	27.83	50.41
	9/14/2011	78.24	26.62	51.62
	6/20/2012	78.24	26.08	52.16
	11/14/2012	78.24	28.36	49.88
MW-24	9/24/2007	72.77	21.90	50.87
	11/17/2008	72.77	22.11	50.66
	6/8/2009	72.77	20.66	52.11
	12/1/2009	72.77	21.11	51.66
	6/2/2010	72.77	19.35	53.42
	8/3/2010	72.77	21.05	51.72
	3/3/2011	72.77	22.25	50.52
	9/13/2011	72.77	21.00	51.77
	6/20/2012	72.77	20.52	52.25
	11/14/2012	72.77	22.82	49.95
MW-25	9/24/2007	77.55	9.30	68.25
	11/17/2008	77.55	7.68	69.87
	6/8/2009	77.55	4.37	73.18
	12/1/2009	77.55	4.60	72.95
	6/2/2010	77.55	7.18	70.37
	8/4/2010	77.55	10.00	67.55
	3/3/2011	77.55	5.62	71.93
	9/14/2011	77.55	4.50	73.05
	6/20/2012	77.55	7.83	69.72
	11/14/2012	77.55	7.51	70.04
MW-26	6/8/2009	81.14	6.03	75.11
	6/2/2010	recovery well not gauged		
	8/3/2010	recovery well not gauged		
	3/2/2011	81.14	18.10	63.04
	9/13/2011	81.14	5.95	75.19
	6/20/2012	recovery well not gauged		
	11/14/2012	recovery well not gauged		

Table 1
Groundwater Elevation Measurements
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Top of Casing Elevation (feet, NGVD)	Depth to Water (feet)	Groundwater Elevation (feet, NGVD)
MW-27	6/8/2009	75.87	3.82	72.05
	12/1/2009	75.87	2.06	73.81
	6/3/2010	75.87	6.53	69.34
	8/3/2010	75.87	9.17	66.70
	3/2/2011	75.87	2.90	72.97
	9/14/2011	75.87	3.56	72.31
	6/20/2012	75.87	7.51	68.36
	11/14/2012	75.87	9.43	66.44
MW-28	6/8/2009	76.36	3.32	73.04
	12/1/2009	76.36	3.32	73.04
	6/3/2010	76.36	6.07	70.29
	8/4/2010	76.36	9.48	66.88
	3/3/2011	76.36	4.14	72.22
	9/14/2011	76.36	3.81	72.55
	6/20/2012	76.36	7.11	69.25
	11/14/2012	76.36	8.82	67.54
MW-29	8/4/2010	81.89	13.18	68.71
	3/2/2011	81.89	9.39	72.50
	9/13/2011	81.89	7.33	74.56
	6/20/2012	81.89	11.72	70.17
	11/14/2012	81.89	12.95	68.94
MW-30	8/4/2010	76.35	15.27	61.08
	6/20/2012	76.35	13.78	62.57
	11/14/2012	76.35	15.88	60.47

Notes:
Water levels were measured with an electronic water level indicator
NGVD - National Geodetic Vertical Datum
NS = Not Surveyed
NG = Not Gauged

Table 2
Nitrate and pH Summary
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Nitrate as N (mg/L)	pH
MCL		5	NG
MW-01A	8/3/2010	**790**	5.03
MW-02	8/3/2010	**40**	3.70
MW-3	11/17/2008	1.16	6.97
	6/9/2009	0.39	6.29
	12/1/2009	0.6	7.05
	6/3/2010	<0.050	6.10
	8/3/2010	<0.050	5.03
	3/3/2011	1.9	4.44
	9/14/2011	0.30	4.70
	6/20/2012	0.47	4.17
	11/14/2012	2.4	4.93
MW-04R	8/3/2010	**41**	3.75
MW-05R	2/25/2002	<.01	5.0[1]
	11/14/2002	<.01	4.8[1]
	6/24/2003	0.33	4.7[1]
	12/8/2003	0.12	5.1[1]
	6/28/2004	0.149	4.90
	11/18/2004	0.19	4.90
	9/8/2005	0.108	3.50
	12/27/2005	0.146	4.20
	8/16/2006	0.188	5.21
	3/5/2007	0.325	5.22
	9/27/2007	0.36	4.43
	4/2/2008	0.171	5.48
	11/17/2008	0.33	6.94
	6/9/2009	0.26	6.84
	12/1/2009	0.2	5.66
	6/3/2010	0.15	4.35
	8/4/2010	0.15	4.43
	3/3/2011	0.19	4.14
	9/14/2011	0.19	3.58
	6/20/2012	0.19	3.28
	11/14/2012	0.21	4.97
MW-06R	2/25/2002	**292**	4.3[1]
	11/14/2002	**217**	4.4[1]
	6/24/2003	**448**	3.7[1]
	12/8/2003	**370**	3.9[1]
	6/28/2004	**291**	3.90
	11/18/2004	**36**	3.89
	9/8/2005	**286**	3.40
	12/27/2005	**338**	3.20
	8/16/2006	**280**	3.98
	3/5/2007	**746**	3.99
	9/24/2007	**404**	3.75
	4/2/2008	**216**	4.03
	11/17/2008	**155.63**	5.62
	6/9/2009	**149**	5.55
	12/1/2009	**150**	4.78
	6/2/2010	**99**	6.34
	8/3/2010	**160**	3.89
	3/2/2011	**150**	3.78
	9/13/2011	**72**	3.50
	6/21/2012	**14**	3.51
	11/14/2012	**110**	3.68

Table 2
Nitrate and pH Summary
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Nitrate as N (mg/L)	pH
MCL		5	NG
MW-07	8/3/2010	**87**	3.50
MW-08	8/4/2010	3	4.12
MW-09	2/25/2002	**59.8**	3.9[1]
	11/14/2002	**55.9**	3.7[1]
	6/24/2003	**70.4**	3.9[1]
	12/8/2003	**43.1**	3.8[1]
	6/28/2004	**49**	4.00
	11/18/2004	**44.1**	4.10
	9/8/2005	**50.8**	3.90
	12/27/2005	**54.6**	3.20
	8/16/2006	**39.3**	4.24
	3/5/2007	**54.5**	4.32
	9/24/2007	**47.9**	3.75
	4/2/2008	**56.7**	4.21
	11/17/2008	**46.68**	5.88
	6/9/2009	**36**	5.67
	12/1/2009	**52**	4.85
	6/2/2010	**65**	6.51
	8/4/2010	**57**	5.31
	3/2/2011	**39**	4.51
	9/13/2011	**37**	4.45
	6/21/2012	**6.9**	3.55
	11/14/2012	**55**	3.73
MW-10	8/4/2010	**35**	3.64
MW-11	8/4/2010	**23**	3.44
MW-12	2/25/2002	**9.71**	3.9[1]
	11/14/2002	**5.71**	4.3[1]
	6/24/2003	**5.73**	4.2[1]
	12/8/2003	2.48	4.3[1]
	6/28/2004	3.34	4.50
	11/18/2004	4.14	4.32
	9/8/2005	**5.52**	3.20
	12/27/2005	2.61	6.30
	8/16/2006	**14.9**	4.28
	3/5/2007	**5.23**	4.56
	9/24/2007	**24.7**	3.70
	4/2/2008	3.79	4.53
	11/17/2008	**10.28**	5.94
	6/9/2009	**3.71**	6.02
	12/1/2009	**5.1**	5.50
	6/2/2010	**7.6**	6.91
	8/4/2010	**14**	3.77
	3/2/2011	4.4	3.68
	9/13/2011	1.7	4.12
	6/21/2012	0.70	3.63
	11/14/2012	**16**	3.67
MW-13	8/4/2010	**5**	3.87
MW-14	8/4/2010	3.1	4.09
MW-15R	8/4/2010	**7.4**	3.91
MW-16	8/4/2010	2.9	4.11
MW-17	8/4/2010	4	3.96
MW-18	8/4/2010	**25**	2.86

Table 2
Nitrate and pH Summary
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Nitrate as N (mg/L)	pH
MCL		5	NG
MW-19R	9/24/2007	**22.7**	--
	1/3/2008	**28.1**	--
	7/14/2008	**13.77**	--
	9/15/2008	**15.25**	--
	11/17/2008	**25.24**	5.78
	6/9/2009	**11.7**	5.84
	12/2/2009	**24**	4.94
	6/2/2010	**27**	6.32
	8/3/2010	**25**	6.59
	3/3/2011	**26**	3.88
	9/13/2011	**20**	2.94
	6/21/2012	**2.9**	3.58
	11/14/2012	**12**	3.47
MW-20R	9/24/2007	3.89	--
	1/3/2008	3.79	--
	7/14/2008	4.31	--
	9/15/2008	4.31	--
	11/17/2008	3.62	6.38
	6/9/2009	**7.15**	6.09
	12/2/2009	**5.4**	5.33
	6/2/2010	4.6	6.62
	8/3/2010	4.4	6.71
	3/3/2011	4.4	3.93
	9/13/2011	3.9	3.40
	6/20/2012	4.6	3.75
	11/14/2012	4.0	4.05
MW-22	8/3/2010	**53**	6.43
MW-23R	2/25/2002	**40.4**	4.1[1]
	11/14/2002	**18.6**	4.3[1]
	6/24/2003	**53.4**	3.9[1]
	12/8/2003	**28**	3.9[1]
	6/28/2004	**39.2**	4.10
	11/18/2004	**35.7**	4.08
	9/8/2005	**31.2**	3.20
	12/27/2005	**28.7**	3.90
	8/16/2006	**26.1**	4.38
	3/5/2007	**21.1**	4.28
	9/24/2007	**30.8**	3.69
	4/2/2008	**18.7**	4.14
	11/17/2008	**22.6**	5.68
	6/9/2009	**19.5**	5.66
	12/2/2009	**26**	4.96
	6/2/2010	**20**	3.81
	8/3/2010	**22**	7.00
	3/3/2011	**14**	4.30
	9/14/2011	**22**	3.48
	6/20/2012	**16**	3.44
	11/15/2012	**19**	3.79

Table 2
Nitrate and pH Summary
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Nitrate as N (mg/L)	pH
MCL		5	NG
MW-24	11/17/2008	**11.72**	6.43
	6/9/2009	**18.2**	6.21
	12/1/2009	**15**	5.64
	6/2/2010	**21**	4.73
	8/3/2010	**21**	7.20
	3/3/2011	**14**	4.44
	9/13/2011	**15**	4.29
	6/20/2012	**21**	4.17
	11/15/2012	**14**	4.98
MW-25	2/25/2002	**11.7**	4.3[1]
	11/14/2002	**9.5**	4.2[1]
	6/24/2003	4.44	4.8[1]
	12/8/2003	3.25	4.6[1]
	6/28/2004	**5.53**	4.40
	11/18/2004	**5.08**	4.55
	9/8/2005	**7.21**	3.40
	12/27/2005	4.1	3.80
	8/16/2006	**5.85**	4.50
	3/5/2007	4.85	4.80
	9/24/2007	**7.22**	3.87
	4/2/2008	**5.05**	4.73
	11/17/2008	**5.49**	6.15
	6/9/2009	4.36	6.20
	12/1/2009	3.9	5.82
	6/2/2010	4.7	6.60
	8/4/2010	**5.5**	3.81
	3/3/2011	4.5	3.92
	9/14/2011	3.5	3.77
	6/21/2012	0.63	3.84
	11/15/2012	**6.5**	4.18
MW-27	11/17/2008	**43.96**	6.35
	6/9/2009	**24.3**	6.29
	12/2/2009	**27**	6.09
	6/3/2010	**35**	4.33
	8/3/2010	**56**	6.97
	3/2/2011	**28**	3.69
	9/14/2011	**24**	4.21
	6/21/2012	**25**	3.67
	11/15/2012	**27**	3.78
MW-28	11/17/2008	**66.3**	5.79
	6/9/2009	**70.4**	5.69
	12/2/2009	**59**	5.48
	6/3/2010	**52**	4.11
	8/3/2010	**110**	6.89
	3/3/2011	1.4	4.53
	9/14/2011	**25**	4.82
	6/21/2012	**22**	3.97
	11/15/2012	**71**	3.84

Table 2
Nitrate and pH Summary
CPS Fertilizer Facility
Sealston, Virginia

Well ID	Sample Date	Nitrate as N (mg/L)	pH
MCL		**5**	**NG**
MW-29	8/4/2010	**9.5**	5.18
MW-30	8/3/2010	**36**	6.92

Notes:

1. Results exceeding Virginia Groundwater Maximum Contamination Limit (MCL) formatted in bold.
2. NG = No Guidance for pH under EPA MCL
3. '-- = Not Analyzed / Not Applicable
4. pH values measured in the field

Table 3
2012 Operation Log for Recovery Well MW-26 and the West Pit Recovery Drain
CPS Fertilizer Facility
Sealston, Virginia

Date	Total Rainfall (inches)	Total Volume Pumped from Well MW-26 (gallons)	Pump On (Yes / No)	Total Volume Pumped from West Pit (gallons)	Pump On (Yes / No)
Jan-12	3.1	3,900	Yes	6,000	Yes
Feb-12	2.3	3,360	Yes	5,250	Yes
Mar-12	0.0	3,600	Yes	5,438	Yes
Apr-12	1.0	4,040	Yes	5,938	Yes
May-12	3.6	4,032	Yes	6,063	Yes
Jun-12	0.0	3,760	Yes	5,813	Yes
Jul-12	5.1	3,860	Yes	6,000	Yes
Aug-12	3.0	3,770	Yes	5,813	Yes
Sep-12	0.5	3,380	Yes	5,063	Yes
Oct-12	7.0	3,900	Yes	6,000	Yes
Nov-12	1.1	3,940	Yes	5,813	Yes
Dec-12	1.3	3,280	Yes	5,063	Yes

Total amount of rainfall in 2012:	**28.0**	(inches)
Total amount of water removed in 2012 by well MW-26:	**44,822.0**	(gallons)
Average amount of groundwater removed in 2012 by well MW-26:	**122.8**	(gal/day)
Total amount of water removed in 2012 by W. Pit Recovery Drain:	**68,250.0**	(gallons)
Average amount of groundwater removed in 2012 by W. Pit Recovery Drain:	**187.0**	(gal/day)
Total amount of water removed in 2012 by Recovery Operations:	**113,072.0**	(gallons)
Average amount of groundwater removed in 2012 by Recovery Operations:	**309.8**	(gal/day)

Table 4
Historic Operation Log for Recovery Well MW-26 and the West Pit Recovery Drain
CPS Fertilizer Facility
Sealston, Virginia

Year	Total Rainfall (inches)	Total Volume Pumped from Well MW-26 (gallons)	Daily Average from MW-26 (gal/day)	Total Volume Pumped from West Pit (gallons)	Daily Average from West Pit (gal/day)	Total Volume Pumped (gallons)
1998	46.70	40,677	111.44	19,400	53.15	60,077
1999	33.05	42,052	115.21	16,837	46.13	58,889
2000	48.45	64,544	176.83	27,375	75.00	91,919
2001	32.30	43,416	118.95	6,363	17.43	49,779
2002	25.60	19,659	53.86	4,652	12.75	24,311
2003	60.46	55,730	152.68	28,372	77.73	84,102
2004	27.10	49,680	136.11	60,735	166.40	110,415
2005	74.25	70,920	194.30	68,645	188.07	139,565
2006	59.11	43,902	120.28	63,541	174.08	107,443
2007	26.70	45,860	125.64	67,679	185.42	113,539
2008	35.20	42,255	115.77	68,063	186.47	110,318
2009	35.40	43,950	120.41	67,688	185.45	111,638
2010	34.60	45,150	123.70	67,682	185.43	112,832
2011	39.60	44,450	121.78	68,272	187.05	112,722
2012	28.00	44,822	122.80	68,250	186.99	113,072

APPENDIX A

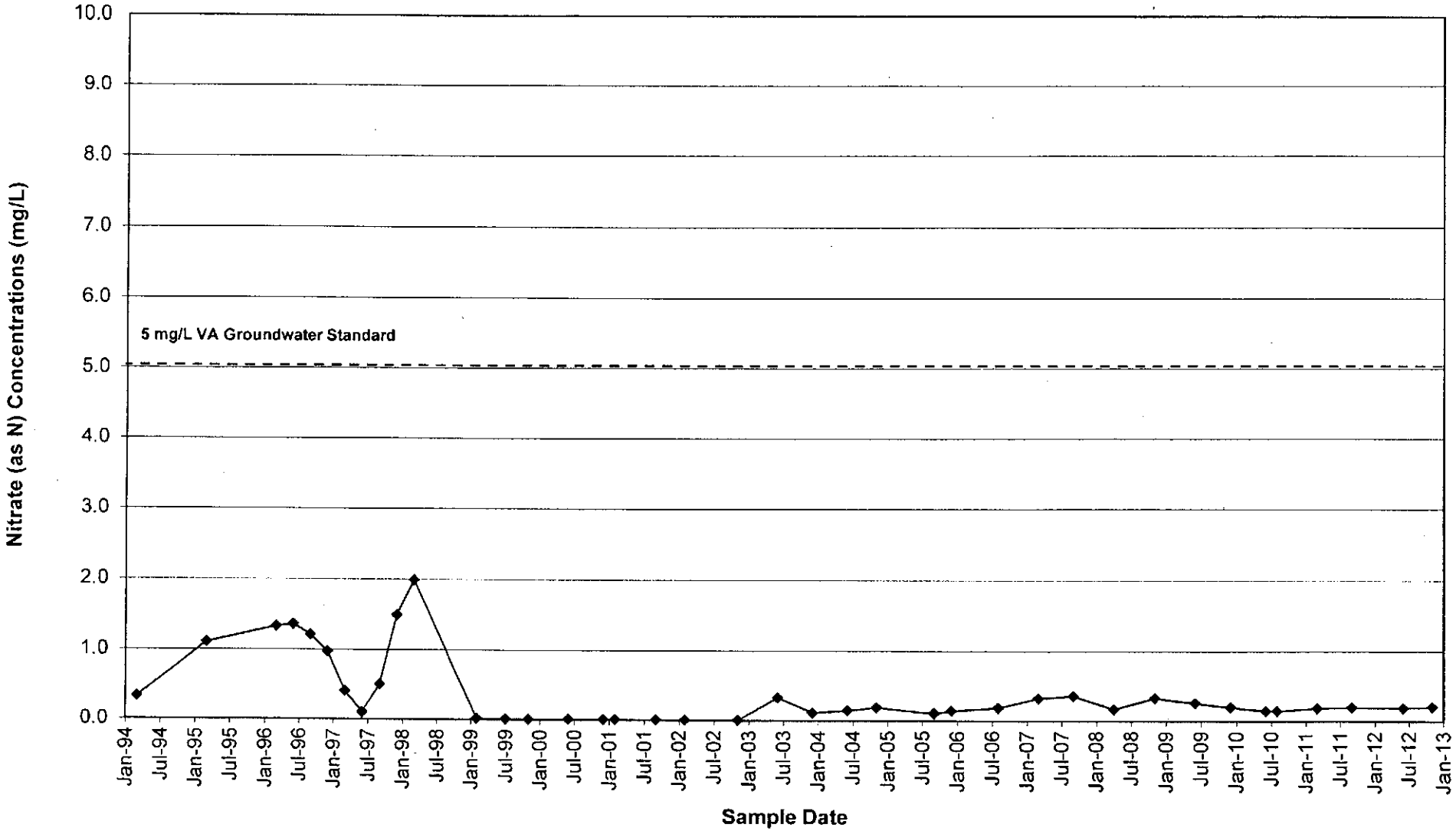
DISSOLVED NITRATE CONCENTRATION GRAPHS

Corrective Action Annual Report

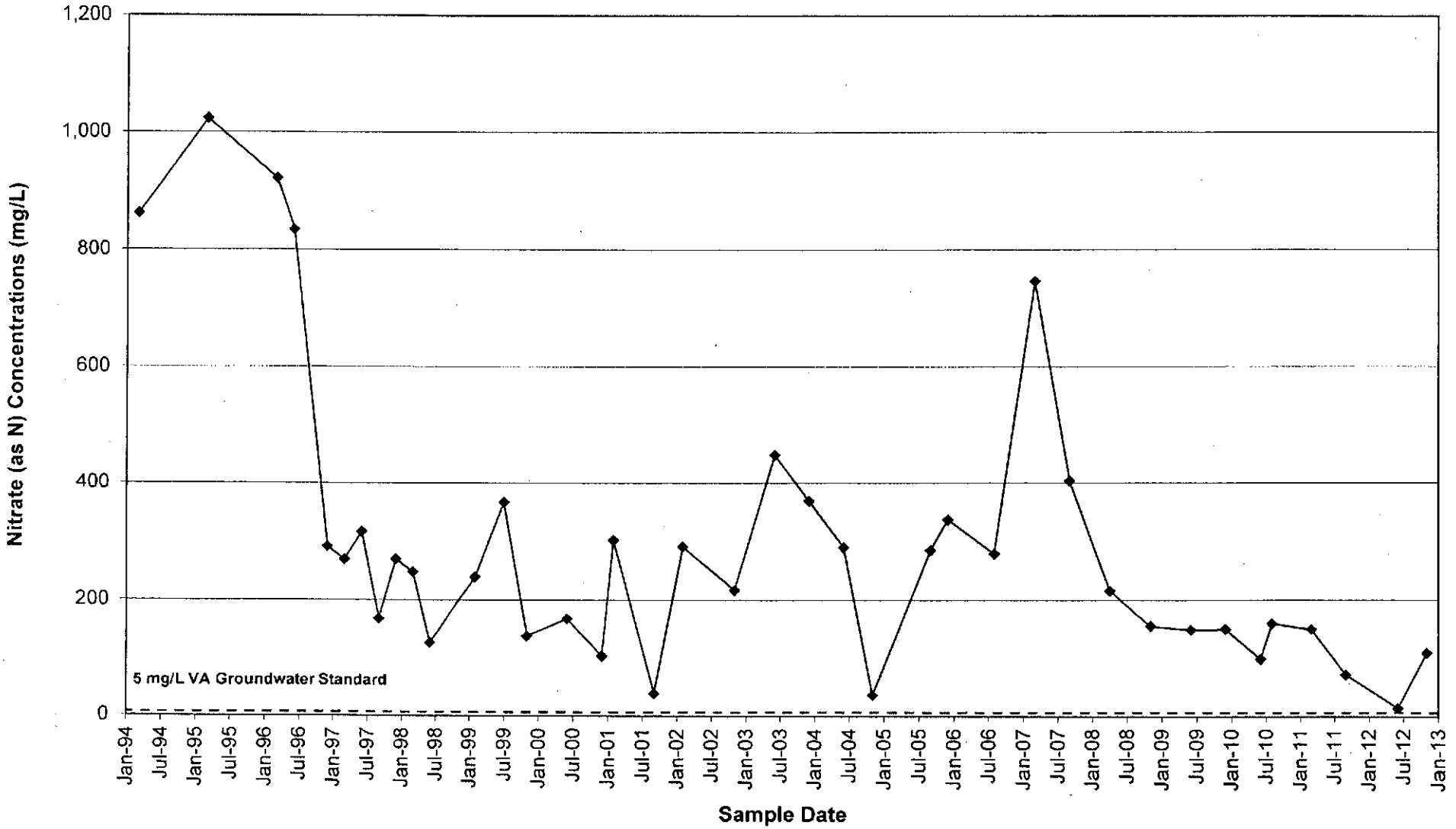
CPS SEALSTON FACILITY
SEALSTON, VIRGINIA

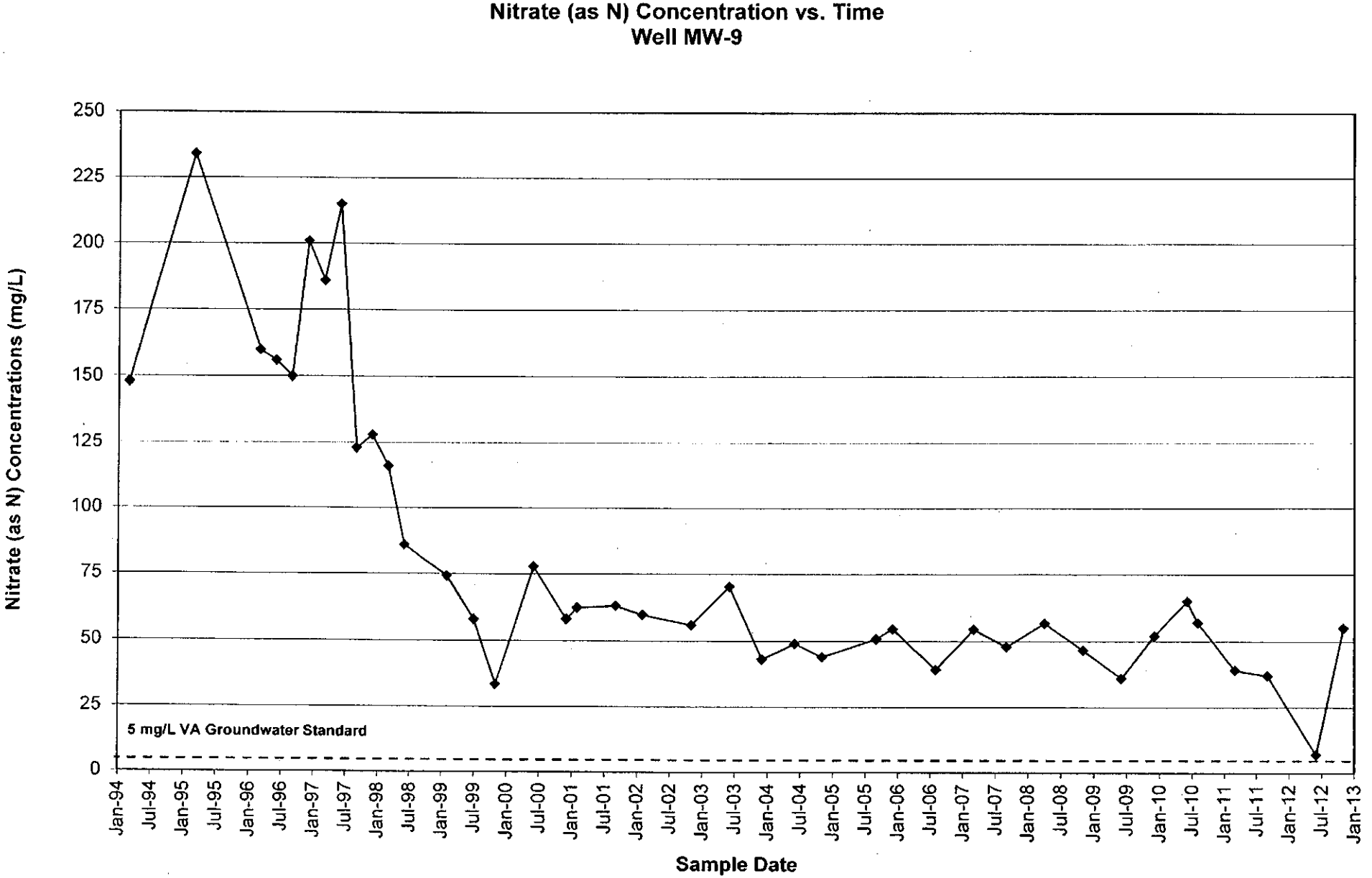
February 21, 2013

Nitrate (as N) Concentration vs. Time
Well MW-5R



Nitrate (as N) Concentration vs. Time
Well MW-6R




Nitrate (as N) Concentration vs. Time
Well MW-9
Nitrate (as N) Concentrations (mg/L)
250
225
200
175
150
125
100
75
50
25
0
5 mg/L VA Groundwater Standard
Jan-94
Jul-94
Jan-95
Jul-95
Jan-96
Jul-96
Jan-97
Jul-97
Jan-98
Jul-98
Jan-99
Jul-99
Jan-00
Jul-00
Jan-01
Jul-01
Jan-02
Jul-02
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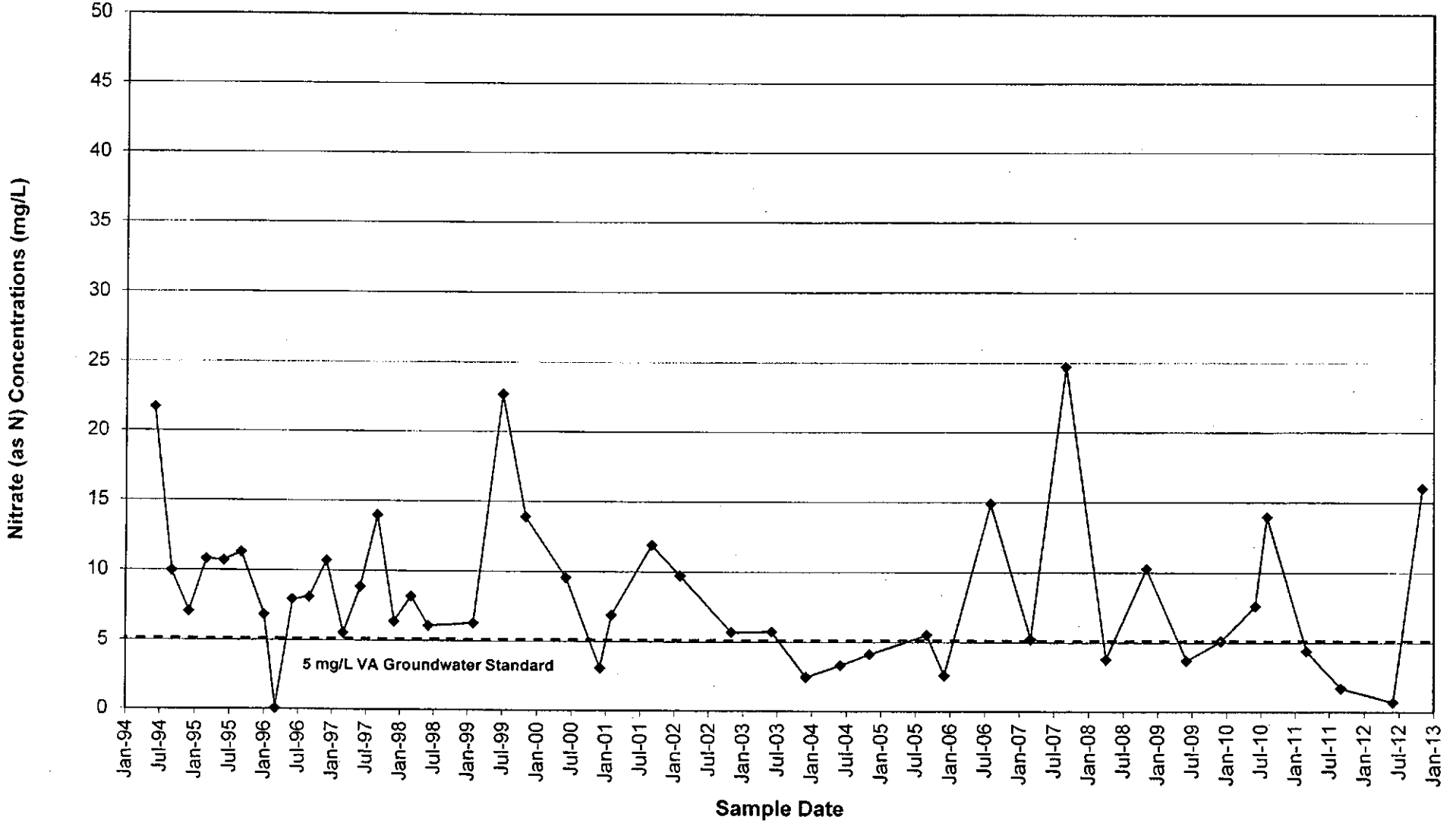
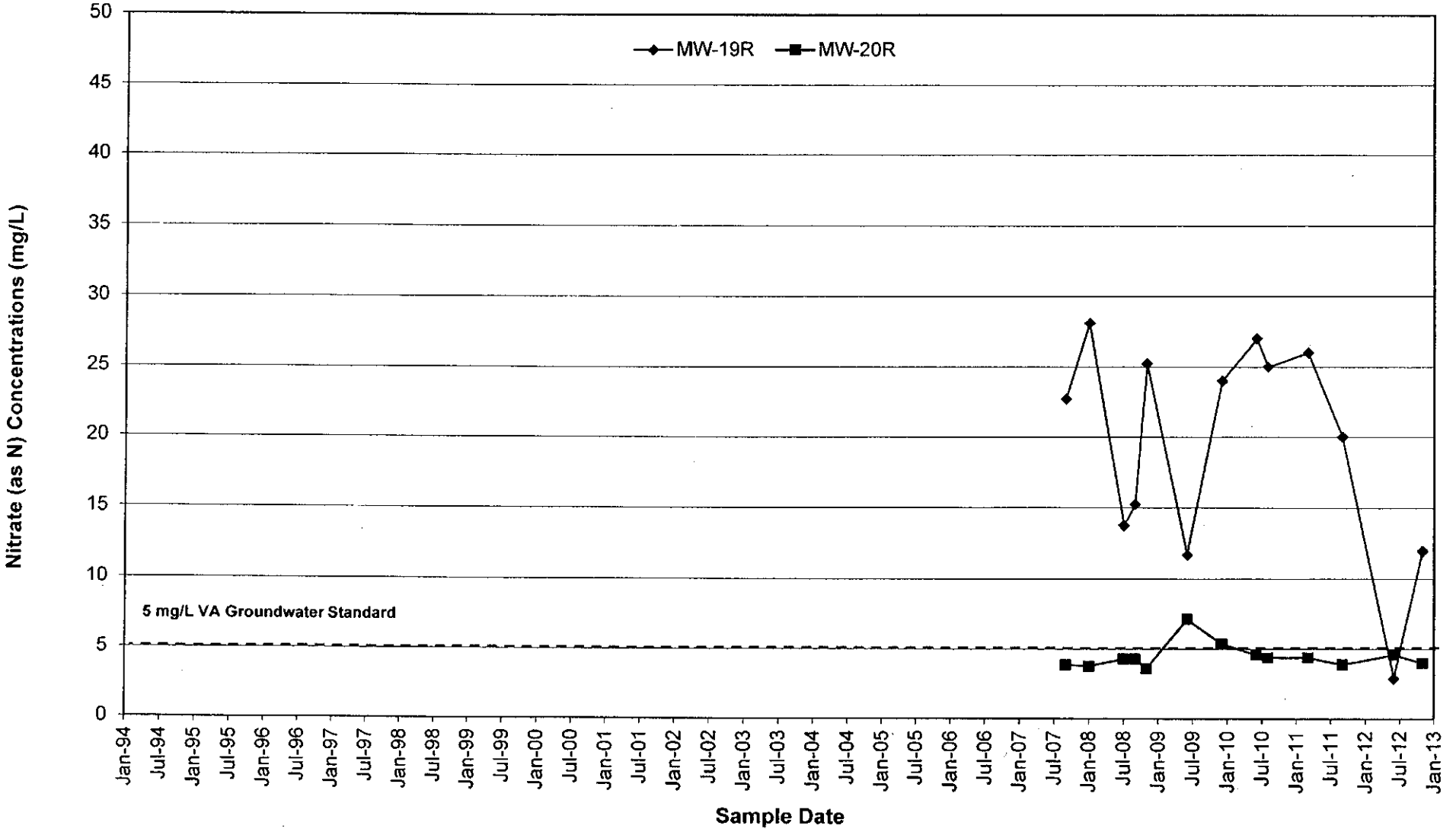
Jan-07
Jul-07
Jan-08
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Sample Date

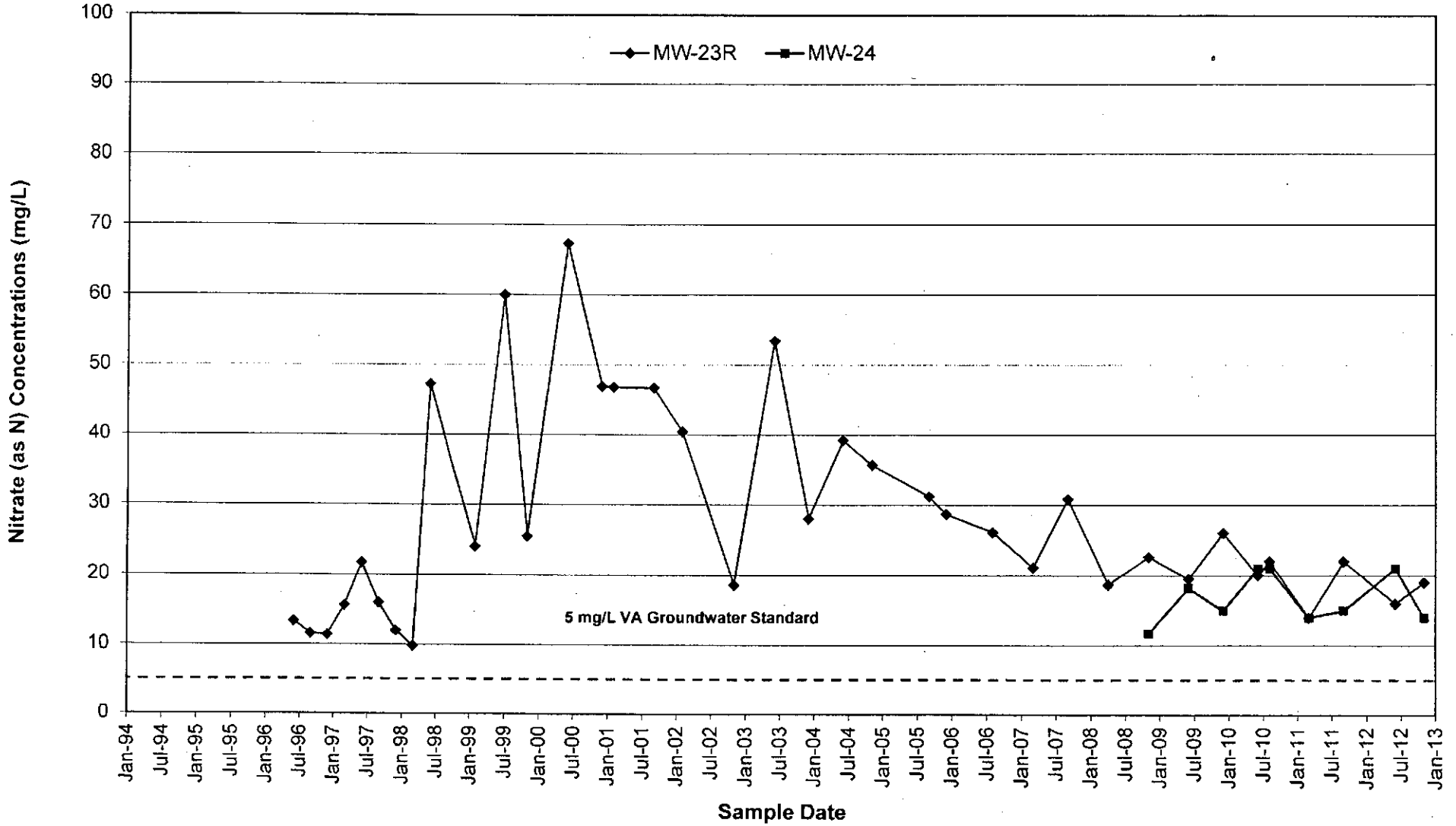
Nitrate (as N) Concentration vs. Time
Well MW-12



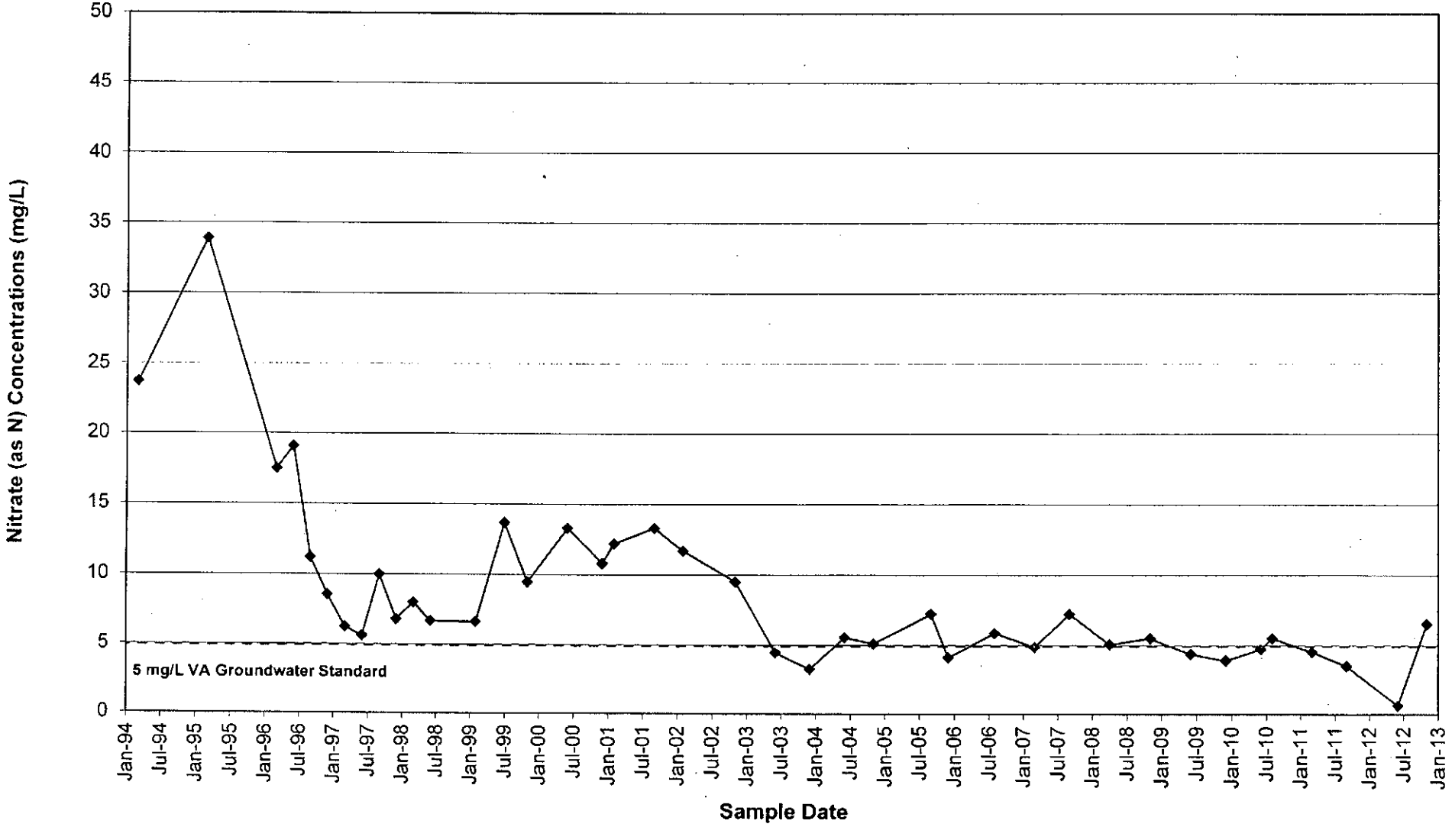
Nitrate (as N) Concentration vs. Time
Wells MW-19R & MW-20R



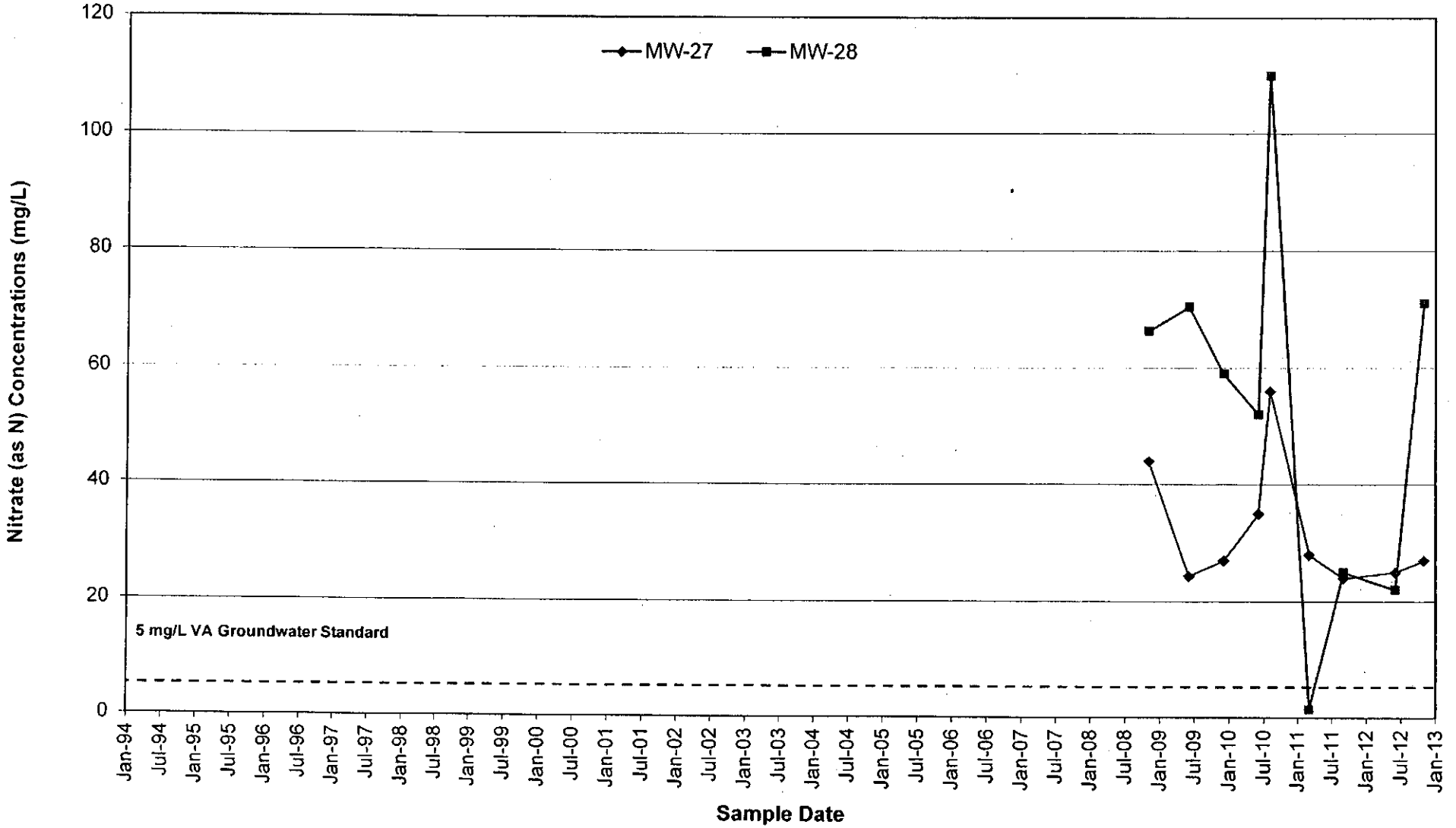
Nitrate (as N) Concentration vs. Time
Well MW-23R & MW-24



Nitrate (as N) Concentration vs. Time
Well MW-25



Nitrate (as N) Concentration vs. Time
Well MW-27 & MW-28



Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated stormwater into a water body in King George, Virginia.

PUBLIC COMMENT PERIOD: XXX, 2013 to XXX, 2013

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Stormwater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Crop Production Services, Inc, PO Box 22, Loveland, CO 80538, VA0088374

NAME AND ADDRESS OF FACILITY: Crop Production Services, Inc, 2453 Birchwood Creek Rd, King George, VA 22485

PROJECT DESCRIPTION: Crop Production Services Inc has applied for a reissuance of a permit for the private Crop Production Services Inc. The applicant proposes to release industrial storm water at a rate of up to 1.26 million gallons per day into a water body. The facility proposes to release industrial storm water in two unnamed tributaries to Birchwood Run in King George in the Rappahannock watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH. The permit requires monitoring for Chemical Oxygen Demand, Total Suspended Solids, Total Petroleum Hydrocarbons, Total Hardness, Dissolved Copper, Dissolved Zinc, Ammonia as N, Nitrate as N, Total Nitrogen, and Total Phosphorus.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the draft permit and application at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.
Name: Alison Thompson
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3834 E-mail: Alison.Thompson@deq.virginia.gov Fax: (703) 583-3821

Revised 2/2003

State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Crop Production Services, Inc.
NPDES Permit Number:	VA0088374
Permit Writer Name:	Alison Thompson
Date:	March 25, 2013

Major [ ] **Minor [X]** **Industrial [X]** **Municipal [ ]**

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?	X		
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?			X
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?	X		

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?		X	
a. Has a TMDL been developed and approved by EPA for the impaired water?			X
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?			X
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?	X		

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals
(To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?	X		
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			X
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?	X		
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	X		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	X		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production" for the facility (not design)?	X		
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?		X	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			X
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	X		
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?	X		
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		X	

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	X		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?	X		
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	X		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the fact sheet indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?		X	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?	X		
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?	X		
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

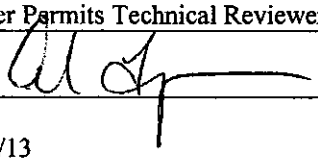
List of Standard Conditions – 40 CFR 122.41

Duty to comply	Property rights	Reporting Requirements
Duty to reapply	Duty to provide information	Planned change
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance
not a defense	Monitoring and records	Transfers
Duty to mitigate	Signatory requirement	Monitoring reports
Proper O & M	Bypass	Compliance schedules
Permit actions	Upset	24-Hour reporting
		Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Alison Thompson
Title	Water Permits Technical Reviewer
Signature	
Date	3/25/13